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THE EFFECTS OF TWO TECHNIQUES FOR TEACHING CHILDREN'S LITERATURE TO SAMPLES OF FIRST-GRADE CHILDREN WERE INVESTIGATED. THE EXPERIMENTAL TREATMENT WAS BASED ON LAWRENCE KUBIE'S MODEL OF THE CREATIVE PROCESS. THE CONTROL GROUP RECEIVED THE CONVENTIONAL PRESENTATION OF CHILDREN'S LITERATURE WITHOUT KUBIE'S EMPHASIS ON METAPHORICAL AND PRECONSCIOUS SYMBOLISM. THE HYPOTHESES TESTED WERE THAT THE EXPERIMENTAL GROUP WOULD PERFORM BETTER THAN THE CONTROL GROUP ON MEASURES OF FLUENCY, FLEXIBILITY, ORIGINALITY, RECALL, AND ANALOGY-MAKING. THE GROUPS DID NOT DIFFER SIGNIFICANTLY, BUT THE AUTHOR STATED THAT THE DATA SUPPORTED THE NEED FOR FURTHER INVESTIGATION. (JK)

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FINAL REPORT

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AN APPLICATION OF A MODEL OF CREATIVE THINKING TO TEACHING IN A FIRST-GRADE CLASSROOM, FINAL REPORT

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August 31, 1966

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I would like to thank Professor James B. Macdonald. His intellect and his integrity have been of great value to me, in this as in other undertakings.

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Chapter I

INTRODUCTION TO THE STUDY

The Problem

Lawrence Kubie writes that:

> The great cultural processes of human society, including art and literature, science, education in general, the humanities and religion, have three essential missions--namely: to enable human nature itself to change; to enable each generation to transmit to the next whatever wisdom it has gained about living; to free the enormous untapped creative potential which is latent in varying degrees in the preconscious processes of everyone.[1]

Schools and educators have traditionally done well with the second of these missions. And it seems plausible that current work on the materials of education and the organization of knowledge for educational purposes will usher in a period of particularly successful transmission of knowledge.

The other two missions have fared less well. It is to one of these--the freeing of creative potential--that this study is addressed. A major premise here is that the elementary school holds a position in our society which is strategically crucial for this mission. It has done as much as any other institution to shackle the creative impulse of the young mind. At the same time, partially because so many children spend so much of their time in school and partially because there are moderately effective channels of communication between scholars and elementary school systems, it seems possible that the school could achieve a different role--that of a mediational vehicle between the child's creative impulse and the repressive nature of other institutions in the child's experience.

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[1] Lawrence S. Kubie, Neurotic Distortion of the Creative Process (New York: Noonday Press, 1961), p. 113.

This conception of the role of the school is at least as old as Rousseau's Emile. And substantial efforts to translate it into practice have been made, for example, under the rubric of permissive education. Such efforts have demonstrated that the granting of freedom to create is an elusive and complex task. Mere passive granting is not enough.

A necessary step, it would seem, in the effort to recast the school in the mediational role, is the search for an adequate theory of the creative process and the forces which oppose it. Such a theory would have to be capable of generating analytic propositions which relate specific classroom variables to the development and protection of the creative process. If the intent is eventually to effect school practices, the propositions would need to be applicable to the instructional context that dominates classroom activity; the school will not abandon its other missions. And to be adequate the theory would need to generate a praxeology which can be understood and applied, if not by the average school person in the present, then at least by the talented school person in the foreseeable future.

The purpose of the present study is to initiate inquiry into the adequacy for the foregoing purposes of a model of the creative process based on the theoretical work of Lawrence Kubie.[2] The general plan is to compare the effects upon a sample of first-grade children of two approaches to teaching children's literature. The first approach, which constitutes the experimental treatment, is based upon the development, through the course of a training program, of teaching patterns inferred from the model and guided by the dominant intent to protect preconscious thought processes. The second approach, which constitutes the comparison treatment, is based upon the development, through the course of a training program, of teaching patterns inferred from a model of the structure of literature itself and guided by the dominant intent to communicate insight into children's literature.

The study attempts to examine the general hypothesis that pupils exposed to the experimental treatment will perform better on measures of creative thinking ability than will pupils exposed to the comparison treatment. Specifically, the following five hypotheses were tested:

(1) pupils exposed to the experimental treatment will perform better on measures of fluency than will pupils exposed to the comparison treatment;

(2) pupils exposed to the experimental treatment will perform better on measures of flexibility than will pupils exposed to the comparison treatment;

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[2] The model is based specifically on the theory of the creative process presented in Kubie, op. cit.

(3) pupils exposed to the experimental treatment will perform better on measures of originality than will pupils exposed to the comparison treatment;

(4) pupils exposed to the experimental treatment will perform better on a measure of recall than will pupils exposed to the comparison treatment; and

(5) pupils exposed to the experimental treatment will perform better on a measure of analogy-making than will pupils exposed to the comparison treatment.

The Conceptual Model

Human mental activity is construed as occurring in three simultaneously operant symbol-making systems; the Unconscious system (UCS), the Preconscious system (PCS), and the Conscious system (CS).[3] Thinking itself is a function of the PCS. The manifestations of thinking which shall here be called creative thinking are a joint function of PCS and CS processes. The UCS, as well as certain abusive applications of CS processes, tend to effect creative thinking adversely. In describing these systems and the relations among them, only those dimensions which bear directly upon this study shall be considered, leaving aside the many complex issues which would need to be dealt with in a psychiatrically-oriented paper.

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[3] This model is drawn principally from Lawrence S. Kubie, Neurotic Distortion of the Creative Process (New York: Noonday Press, 1961).

No pretense is made to having done justice to Kubie's work. Inadequacies of the model are the author's responsibility.

Preconscious System (PCS)

The content and processes of the preconscious system are not in awareness, but available to awareness. At the simplest level, Dr. Jones' telephone number is an example. One is not aware of the number most of the time. But one can become aware of it at will. Just a bit more complex is the way in which one knows that 8 x 7 = 56. This is more complex by virtue of the fact that it is a datum located within a data system. Still, for people who have used this datum many times it is a matter of bringing a known fact into awareness rather than a matter of calculation.

If one accepts these situations as evidence that the mind holds information in a way that is neither unconscious because it is not beyond retrieval nor conscious because it is not in awareness except when summoned, then one can begin to explore the more complex implications of the notion of a preconscious system.

How, for example, does one make the hundreds of decisions involved in a simple conversation with a colleague? Our experience of it is that "the words just flow." Yet the flow of words satisfies an enormously complex set of requirements: that they by syntactically coherent; that they constitute a response to what was just heard; frequently that they reflect an instantaneous arrangement of knowledge which does not at the time enter consciousness; that they reflect the relationship one has with the colleague; that they reflect the conditions of the conversation--is it over coffee, or at a research staff meeting, or on a panel in front of a nationwide T. V. audience? It is inconceivable that during the process we call the flow of speech one consciously entertains all the data relevant to making each of these decisions with respect to each of the words, grammatical units, complete ideas, pauses, emphases, etc. which nevertheless manage incessantly to flow from our mouths more or less in conformity to the requirements of the moment. This instance, then, testifies to a more complex aspect of the preconscious system. It is a system for decision-making, for information sorting and arranging, for prediction of effect, for integrating new perceptions with stored information and producing relevant new combinations of information. And it is a system which works involuntarily and with incredible speed.

One could go on to analyze instances of problem-solving, inventing, scientific discovery, or artistic creation. There is sufficient evidence in the first-hand testimony of many highly creative persons to suggest that with relatively rare exception which we shall discuss below under Conscious processes, thought goes on without awareness and with speed comparable to that of the fastest computers.[4]

On the basis of such observations, the model employed in this study assigns all thinking properly so-called to the PCS. And further, the model asserts that the PCS is in constant process regardless of whether or not one has any knowledge that he is thinking or is paying attention to any particular problem. The consequence of this constant process is that there is a stream of ideas continuously flowing by the threshold of consciousness. The specific laws which govern Preconscious operations are not known. It seems plausible that principles of learning strategy, problem-solving, concept-achievement, etc. may be construed as metaphorical expressions of these laws. A more fruitful approach to preconscious lawfulness might involve a heuristics analysis. Such an analysis would posit dominant sets of abstractions whose structures serve as heuristic guidelines to the continuous preconscious processing of data. These heuristics, and the processes they guide, are probably metaphorical or analogical in nature, as compared to the formally logical, digital processes of consciousness.

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[4] An interesting collection of statements by outstanding individuals about their own creative processes may be found in Brewster Ghiselin, ed., The Creative Process (New York: Mentor Books, 1955).

It may be that one or another heuristic set becomes dominant in response either to external stimuli or to a conscious volitional act. This conception of the heuristics of preconscious thought would give meaning to such pedagogical conceptions, for example, as teaching someone to "think historically," to "think biologically" or to "think poetically." Further, one might explore the feasibility of accounting for specific intellectual strengths and weaknesses in terms of the availability or unavailability of appropriate heuristic sets.

These ideas will require exploration. For the present, however, the following propositions are important: capacity for thought is a function of the freedom of preconscious processes; these processes are probably analogical in nature and are probably guided by heuristic principles; the PCS provides an incessant bombardment of thought upon the threshold of consciousness.

Concious System (CS)

The chief function of the conscious system is to sample from the incessant preconscious bombardment for the purposes of validating and communicating its products. Thus understood, the CS appears to be a mediational vehicle for bringing selected portions of one's private world into the public domain. The PCS has its own systems for validation. But these systems are only partially in correspondence with public criteria of validity. It is through the comparatively slow and cumbersome process of consciously subjecting data and ideas to scrutiny in terms of the formal syntax of public knowledge that one achieves publicly understandable and scientifically valid assertion.[5] Thus, for example, Kekule's vision of snakes was a preconsciously valid assertion of the structure of the benzine ring.[6] For the purposes both of communicating this assertion and of testing for public consumption the validity of the assertion, it was necessary for him to translate it into the symbolic terms of organic chemistry and to derive the assertion, thus translated, according to the syntax of organic chemistry.

The demands upon the CS for communication and validation differ in different spheres of activity. The sciences, it would seem, make more rigorous demands upon consciousness than do the arts. Still it is important to recognize that in both cases the total process culminating in public expression begins with some form of preconscious manipulation of data and ends with some form of conscious mediational activity.

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[5] Joseph J. Schwab, "Problems, Topics, and Issues," in Phi Delta Kappa, Education and the Structure of Knowledge (Chicago: Rand McNally, 1964). See especially pp. 28-35.

[6] Kubie, op. cit., p. 83.

Thinking and Creativity

Thinking, according to our model, is a preconscious process by which the mind manipulates all modes of data at extremely high speed, resulting in a continuous production of references, indexes, insights, combinations, and ideas of all sorts in many media. This process in its totality is equated in the model with the creative process. Conscious processes involve neither thinking nor creating, but rather sampling from the incessant creative activity of the PCS for purposes of communication and validation. Manifestations of the creative process with which this study shall deal are a function of the combined freedom of thinking and sampling. Theoretically such manifestations should include a vast set of behaviors, like the ability to identify one's emotions, the ability to solve both mechanical and human problems, and the ability to discover relationships within a field of data, as well as those artistic behaviors more commonly associated with creativity.

Factors Inhibiting Thinking Power

The UCS.--The UCS differs from the PCS in that its materials are not accessible to consciousness, except in extraordinary circumstances which it is the stock in trade of the psychoanalyst to provide. The data of the UCS are subjective experiences which it is intolerable for the organism to entertain in consciousness. The circumstances which cause a given experience to be intolerable to the organism are not known with any precision. A great portion of the literature has focused upon single "traumatic" experiences as the source of repression into the unconscious. Other writers, including Kubie, focus their attention upon continuing day-to-day experiences of the child which threaten his grasp of the world and his delicate psychic organization. So conceived, repression emerges as an ubiquitous condition of psychic survival in a social world. Thus, for example, in order to maintain the esteem of his parents a child may need to conceal his feelings of rage towards a sibling. And, to the extent that children's self-esteem is likely in part to be based upon criteria learned from parents, in order to maintain his self-esteem a child may have to conceal from himself the same feelings of rage. Repression may be thought of as this process of concealment from one's self. While this description of repression is not psychiatrically adequate, it suffices here to call attention to its general characteristic. It hides from view that which it is intolerable to see.

Repressed material, however, does not stay neatly in its unconscious place. For the UCS operates in a paradoxical manner. It simultaneously expresses and disguises its contents. Its thrust for expression is what makes it visible at all. Its thrust for disguise keeps repressed and out of recognition the actualities which are consigned to it. The combination of these two contrary dynamic tendencies of the UCS combine into the characteristic consequence of unconscious processes with which we are here concerned. For any given individual the thematic assertions of the unconscious are practically invariant, though they may undergo a variety of ingenious symbolic transformations which keep its actual content disguised. Thus the chief characteristic of the UCS is repetitiveness. Without our awareness the repetitive product of the unconscious radically affects preconscious thought. The symbolic expressions of unconscious rage, dismay, fear, etc. weave themselves into the fabric of preconscious processes, thus exerting a distorting and stereotyping influence upon the creative process.

This is the essence of what Kubie calls the neurotic process. It is a ubiquitous fact of mankind. It may exist with or apart from more specific symptoms of mental disease. The part it plays in the total mentation of a given individual may be more or less, depending in part on the nature and sheer bulk of repressed material and in part upon a large number of other factors which fall outside the domain of this study. Of importance here are the propositions that the neurotic process tends to distort and inhibit the creative process, and that minimizing repression, in combination with other contingencies, tends to free the creative process.

Abuses of the Conscious System

One might speculate that at birth the infant's experience is primarily preconscious, and that the CS and the UCS evolve out of the infantile preconscious state. If this proposition were held as a premise, one would have to predict the ultimate discovery of some number of patterns of development from the infantile state to the state of the mature creative individual in whom CS and PCS interact in a highly desirable fashion with minimal interference from the UCS. Similarly one would predict the discovery of types of experience which would tend to interfere with these developmental patterns.

Though these discoveries are yet to be made and validated empirically, one might rationally converge upon some of the characteristics, at least, of experiences which are likely to interfere with the development of sound preconscious-conscious interaction. There is one such characteristic of experience of particular concern here because it seems to be a fairly typical characteristic of early school experience. This experience is the devaluation of, and consequent loss of trust in, preconscious processes--that is, in thought itself--and the concomitant excessive valuing of conscious validating and communicating processes which are treated as if they were thought. The consequence of such experience, the model would suggest, is a loss of desire and ultimately a loss of ability to sample the preconscious bombardment. Thus the CS, which in its developmental place is a proper adjunct to the PCS, and one without which neither communication nor publicly validated communal knowledge is possible, is also susceptible to abuses which would tend to disrupt the creative process.

Chapter II

PERSPECTIVES ON THE PROBLEM

Introductory Comments

The intent of this chapter is to locate the present study in relation to other inquiries. In a sense it is a highly speculative chapter. The structure of the field of the study of creativity is by no means clear, and so the task of locating this particular study within that field requires the *ad hoc* generation of landmarks and direction signs. The basic contention of the chapter, that studies of creativity tend to fall into one of two categories depending upon whether they look primarily at process or product, has support in the literature. Whatever structures are suggested beyond this dichotomy, though in part inferred from the statements of other investigators, are nonetheless speculative and designed primarily to help the reader understand the concerns of the experimenter. In a sense then, the chapter is value-laden; it is an effort to conceptualize the structure of a field in such a way that it will serve the author's personal commitments with respect to the significance of "creativity".

The Plan of this Chapter

Studies of creativity will be divided into two main categories--product-oriented studies and process-oriented studies.

Within each of these categories two sub-divisions will be suggested. Product studies will be divided into the political and the economic. Process studies will be divided into those which focus upon behavior and those which focus upon experience.

Finally, an effort will be made to classify a small body of studies of creativity within an education context and to assess in particular the relationship of the present study to the scheme outlined above.

Product-Oriented Studies

Barron and many others have repeatedly called attention to the existence of two basically different ways of regarding creativity--the "process" way and the "product" way.[1] Some of the concomitants of this distinction are suggested in the following comment by Barron:

> It has been assumed in most of our discussion that we can determine whether a person is creative by observing his behavior or discovering what his products are. I should like to point out that this kind of definition is probably basic to the kinds of prejudices that psychologists have. One could just as well construe creativity as an internal process continually in action but not always observable, or perhaps in some cases fundamentally unobservable.[2]

Mixed into the product-process dichotomy is a good deal more than the mere "prejudices that psychologists have," however.

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[1] See, for example, "Process vs. Product, a spontaneous discussion among conference participants": Chapter 9 in Calvin Taylor, ed., Widening Horizons in Creativity (New York: John Wiley & Sons, 1964).

[2] This was the opening comment in the discussion cited in Taylor, *ibid*., p. 112.

Taylor's introductory comments to his 1964 review of the creativity scene suggests what this more may be in connection with at least one substantial body of research effort:

> Currently there is competition for the very minds of men. Among those factors which will determine the outcome of that competition, creativity is one of the most important. Both the quantity and depth of creativity in various areas of knowledge and in different nations will be significant. Because creative acts affect enormously not only scientific progress, but society in general, those nations who learn best how to identify, develop, and encourage the creative potential in their people may find themselves in very advantageous positions.

Taylor continues, several paragraphs later:

> If we are to survive in international competition, our most promising solution . . . is for this nation to encourage and support the identification and development of various types of important personnel. One such type is the highly creative person, for even a few such persons in science can keep our scientific movement vigorously in front--recall the World War II race for the development of the atomic bomb.[3]

Taylor's comments seem to indicate one of the important motivating forces behind some of the current product-oriented studies of creativity. It might be labeled a political force--not in the sense that it is produced under or is intended to generate political pressure, but in the sense that it is energized by a political commitment.

The general problem of product-oriented, politically-motivated investigation is to answer the question "how can we raise our society's output of creative products?"[4] Specific studies within the "product-political" category tend to approach the general problem through the sub-problem of "identifying creative talent." This problem, in turn, has been attacked on two fronts, the criterion front and the predictor front.

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[3] Calvin W. Taylor, ed., Creativity: Progress and Potential (New York: McGraw-Hill Book Co., 1964), p. 3.

The criterion front attacks the problem head-on by seeking reliable means of evaluating products. A number of such studies are cited in the review by Brogden and Sprecher.[5] The most comprehensive study, however, is that by Taylor, Smith, and Ghiselin,[6] which reported upon 52 criterion variables characteristic of research scientists. The 52 variables may be classified according to the source of judgment applied to them. The scores were derived from supervisors' judgments on 11 variables, from laboratory chiefs on 4 variables, from peer nominations on

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[4] Taylor distinguishes between productivity and creativity: "productivity implies quantity and creativity implies high quality of a particular kind" (Taylor, Widening Horizons in Creativity, op. cit., p. 7).

[5] Hubert E. Brogden and Thomas B. Sprecher, "Criteria of Creativity," in Taylor, Creativity: Progress and Potential (op. cit.).

[6] Calvin Taylor, W. R. Smith, and B. Ghiselin, "The Creative and other Contributions of One Sample of Research Scientists," in C. W. Taylor and Frank Barron, eds., Scientific Creativity: Its Recognition and Development (New York: John Wiley & Sons, 1963).

6 variables, from quantity of publications on 7 variables, from senior scientists' evaluations of publications on 5 variables, from organizational records on 9 variables, from various other sources for the remaining 10 variables. Typical variables for 6 of these sources are shown in Figure 1.

Source	Variable
Supervisor	Productivity Ranking
Laboratory Chiefs	Creativity Check-List
Peers	Preferred Consultant
Project Researchers	Productivity Predicted
Official Records	Patents and Invention Disclosures per Year of Experience
Reports and Publications	Total of Journal Articles

Fig. 1.--Typical Variables Scored by each of Six Sources.

In this study, scores on the 52 variables were subjected to a Factor Analysis with a resulting set of 15 Criterion Factors which were relatively independent of each other. Taylor and his colleagues speculate upon various ways of grouping the 15 factors, and conclude quite reasonably that they have merely opened the door on a research area. To facilitate further research in this area, the criterion committee at the third University of Utah conference on the "Identification of Creative Scientific Talent" produced an outline of variables involved in the study of creativity criteria.[7] Part IV of the report of the fifth Utah conference indicates that research on the criterion problem is a continuing concern.[8]

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[7] Calvin Taylor, ed., The Third University of Utah Conference on the Identification of Creative Scientific Talent (Salt Lake City: University of Utah Press, 1959).

Closely related to the criterion front of attack on the problem of identifying creative talent is the problem of accurately predicting future creative performance, that is, the problem of knowing in advance with some degree of precision which people are likely to become creatively productive in a given field. Placement of this body of research in the product-political category is justified by Taylor and Holland's comment that "predictive studies are the only way we have to acquire valid information which will enable us to identify those adolescents who will become creative scientists."[9] Research on this problem is in a very primitive state, although a large number of variables have been examined. One of the reasons for this, say Brogden and Sprecher, is that "the quality of research on predictor tests . . . depends, in the last analysis, on the adequacy of the criteria used."[10] That is to say, the ability to identify valid and reliable predictive variables depends in part on the prior ability to establish valid and reliable criteria for that which is being predicted. Taylor and

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[8] Part IV (Chapters 16-21) in Calvin Taylor, ed., Widening Horizons in Creativity (op. cit.).

[9] Calvin Taylor and John Holland, "Predictors of Creative Performance," in Calvin Taylor, ed., Creativity, Progress and Potential (op. cit.), p. 47.

[10] Brogden and Sprecher, op. cit., p. 156.

Holland argue essentially the same point:

> It is elementary, but of fundamental importance, to note that the use of predictors assumes that we have some explicit, relevant, external criterion for recognizing the creative performance we hope to predict with our personal and situational variables. Tests of creative ability, often used as criteria of creativity because they appear to be valid measures of the processes tested, are at best preliminary and inadequate criteria; if we rely on them extensively, we may overlook our chief criterion: adult creative performance.[11]

When one recalls that Taylor's own study with Smith and Ghiselin explores 15 Criterion Factors derived from 52 criterion variables and that this is only one of a number of studies, the difficulty of the search for predictors may be appreciated.

Taylor and Holland reviewed the pertinent literature with the intent of organizing current knowledge in a way that would facilitate future research.[12] For the purpose of this chapter it would be well merely to mention the kinds of variables which these reviewers consider most promising as well as those which they would discard.

To begin with the rejects, Taylor and Holland find that "the evidence suggests that intelligence tests are not very effective . . . (as predictors); intelligence . . . accounts for only a small part of the variation in creative performance."[13] Studies by Getzels and Jackson,[14] Torrance,[15] and Mackinnon[16] would support this contention. Similarly, both academic grades and "sheer accumulation of knowledge" are regarded as poor predictors.

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[11] Taylor and Holland, op. cit., p. 16.

[12] Taylor and Holland, ibid.

The most efficient predictors appear to be biographical items of the sort reported by Taylor, Smith, Ghiselin, and Holland.[17] These investigators used check lists to obtain data on background, preferred activities, expressed goals, and levels and kind of desired attainment.

Self-ratings on creativity and direct expressions of goals and aspirations are rated second by Taylor and Holland. "Originality and personality inventories run a very poor third. Aptitude and Intelligence measures rank fourth. . . ."

Research activity in the Product-Political category has continued to expand, and a good deal of the initiative in this expansion has been supplied by Taylor and the University of Utah.

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[13] Ibid., p. 17.

[14] Jacob W. Getzels and Philip W. Jackson, Creativity and Intelligence (New York: John Wiley & Sons, 1962).

[15] E. Paul Torrance, "Current Research on the Nature of Creative Talent," Journal of Counselling Psychology, 6 (1959), 309-316.

[16] D. W. Mackinnon, "What Do We Mean by Talent and How Do We Test for It?" in The Search for Talent (New York: College Entrance Examination Board, 1959).

[17] Calvin Taylor, W. R. Smith, B. Ghiselin, and R. Ellison, Explorations in the Measurement and Prediction of Contributions of One Sample of Scientists, Report No. ASD-TR-61-96 (Lackland Air Force Base, Texas: USAF Personnel Laboratory, 1961).

An interesting development may be noted in the book reporting the activities at the most recent Utah conference on creativity--that is, the tendency to treat the criterion and predictor problems together. This tendency might have been predicted from comments, cited above, by Brogden and Sprecher and by Taylor and Holland. The most comprehensive effort to deal with the two problems together is the work of Taylor and Ellison, reported in the book just mentioned.[18] This highly complex series of studies in essence is an attempt (1) to refine earlier criterion measures, (2) to refine earlier predictor studies, and (3) to study the relationship between the two with rather elaborate correlational techniques. With respect to the first task, the 15 factors derived from 52 items, which Taylor had reported earlier,[19] were subjected to a second-order factor analysis to see whether meaningful simplification of the criterion problem could thus be derived. Taylor and Ellison are not of the opinion that the seven second-order factors thus produced are of any great help, either in clarifying the problem conceptually or in simplifying it technically. They point out, however, that the strongest of the seven second-order factors contains all five of the first-order factors which had specifically "creative features in their composition." A second important observation was "that two independent recognition factors emerged, namely, 'non-material recognition' and 'material recognition and success.' Both these kinds of recognition were independent of (unrelated to) the creativeness of the scientist's work."

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[18] Calvin Taylor and Robert Ellison, "Predicting Creative Performance from Multiple Measures," in Calvin Taylor, ed., Widening Horizons in Creativity (op. cit.).

[19] Calvin Taylor, W. R. Smith, and B. Ghiselin, op. cit.

Work on predictors focused on the further development of a Biographical Inventory. This work used a "double cross-validation design" to refine the Biographical Inventory over three separate studies and phases of revision. The results of this work suggest support for the observation of Taylor and Holland[20] that biographical information may provide the most reliable predictor measure. Taylor and Ellison are continuing their work in this area, with special attention being given to factor-analysis of biographical data.

Finally, Taylor and Ellison report computing multiple correlations of a set of 52 predictor measures against 17 criterion measures. Among the interesting results of this effort was the finding that the total battery of prediction measures overlaps approximately half or more (50.0%, 46.8%, 70.7%, 71.0%, 66.0%, and 65.4%) of the criterion variance for the six criterion factors which include specifically creative items.

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[20] Calvin Taylor and John Holland, op. cit.

Related to the work reported above is one final study that should be mentioned in this section. Taylor, Cauley, and Nielsen examined the applicability of the Biographical Inventory to the problem of predicting creative scientific performance of adolescents participating in the National Science Foundation Summer Institute program. They found that with appropriate modification (appropriate in the sense of altering items from the inventory which could apply only to mature science research personnel) Biographical Inventory scores correlated .47 with supervisory ratings on creativity. An interesting indication which has not been thoroughly checked yet is that the Biographical Inventory did a better job of prediction than did the collective judgment of the fellowship committee "who used the entire folder of materials for each applicant in making its decisions."

These are some of the highlights of research here classified as product-political. In focusing this report on the work of Taylor and other participants in the work at Utah University the intent has not been to indicate that all the work or all the people involved in the Utah studies fit precisely into the product-political category. Rather the intent has been to suggest a context in terms of which the basic thrust of inquiry of an outstandingly productive and competent body of literature can be understood.

The product-economic category is somewhat more speculative than the product-political category. The money motive is not given the same kind of blatant expression that Taylor gives the democracy motive. Nor does the literature to be placed in this category gravitate about a central point the way the product-political literature does about the Utah work. Still, the contention might be made that investment in the study of creativity by corporations whose motives are commonly construed to be monetary and competitive has to a large extent determined the kinds of programs established and questions asked in a certain segment of the creativity literature.[21] This segment, because it lacks the centrality and cumulative characteristics of the product-political segment, is treated briefly.

If the political concern characterizing the first category was responsible for the fact that studies in that category focused upon problems of identification and prediction with an eye toward ultimate sifting and winnowing, the economic concern characterizing the second category is responsible for the focus in this second segment of the literature upon the problem of production itself with an eye upon current personnel. Thus the guiding concern in the product-economic category is the problem of getting a given set of people to produce better and more ideas and things. The following statement by the Course Development Engineer at General Electric may be taken to typify this concern:

> The objectives of General Electric's Creative Courses are to identify young engineers with potential creative talents and to help them

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[21] The corporations which have contributed to and/or participated in the development of this segment include the following: United States Steel, B. F. Goodrich, A. C. Spark-Plug of General Motors, Boeing Aircraft, Esso Research and Engineering Company, Aerojet General, General Electric, Dayton Rubber, Dow Chemical Company, Standard Oil, and Industrial Research, Inc. Some of their specific involvements will be cited below.

> develop these talents. The courses seek to increase the ability of participants to produce ideas, to improve the practicality of their ideas, to utilize their ideas fully, and to gain ultimate acceptance for useful new ideas.[22]

The concerns that characterize the product-economic category have been approached in several ways: (1) attempts to directly teach people how to increase their creative productivity; and (2) attempts to manipulate the controlling forces in the working environment which condition creative productivity.

The first of these approaches to the problem has focused upon the establishment of "creativity" courses for industrial personnel, and the systematic evaluation of such courses. A large number of these courses have been adaptations of the material prepared by Alex Osborn.[23] Such courses have been conducted at United States Steel, A. C. Spark-Plug Division of General Motors, B. F. Goodrich, and other major corporations. The evaluation program conducted by A-C is typical of the work surrounding the Osborn material. In their study[24] a group of employees with high suggestion records and a group with low suggestion records took part in a creativity training program. Records were kept for both groups as well as for the remainder of the plant employees who constituted a control group, with respect to (1) number of suggestions submitted, (2) number of suggestions accepted, and (3) amount of monetary awards for accepted suggestions, for one year before and one year after training. Analysis of these records indicated that both groups receiving creativity training made significant gains on all three criteria while the control group did not make such gains. The high suggestion group maintained its position. The authors consider the third criterion to be a measure of quality of suggestions, and thus are able to conclude that the study supports the hypothesis that the creativity course is beneficial to the suggestion program.

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[22] George I. Samstad, "General Electric's Creative Courses," Sidney Parnes and Harold Harding, eds., A Source-Book for Creative Thinking (New York: Scribner's, 1962), p. 334.

[23] Osborn has produced pamphlets, workbooks, and teachers' guides as well as his major textbook, Applied Imagination (New York: Scribner's, 1954), which as of 1962 had gone through twelve printings with over 100,000 copies sold. A brief description of the course is to be found in Sidney J. Parnes, "The Creative Problem-Solving Course and Institute at the University of Buffalo," in Parnes and Harding, op. cit.

[24] A. L. Simberg and T. E. Shannon, "The Effect of AC Creativity Training on the AC Suggestion Program," A. C. Spark-Plug Division of General Motors Corporation, March 27, 1959, mimeo.

Parnes and Meadow have conducted a series of studies intended to evaluate the effectiveness of specific dimensions of the Osborn course, as well as the effectiveness of related "brainstorming" techniques.[25]

A second body of work focuses on W. J. J. Gordon's "Operational Creativity." Gordon was Director of the Design Synthesis Group of the Arthur D. Little Company, a Cambridge business consulting firm. Gordon developed his "operational creativity" technique to answer the needs of various industrial clients for help in inventing solutions to difficult design problems. His technique is more elaborate than Osborn's, does not involve the rather academic investigation of the nature of creative thinking and its stumbling blocks that Osborn's course includes, and places heavy emphasis on the special role of the group leader.[26] Gordon felt that Osborn's technique and related brainstorming techniques tended to converge too quickly upon a solution, with the result either that the ultimate solution tends to be less perfect than it otherwise might be or that much time is spent on supposed solutions which turn out to be inadequate. To counteract this shortcoming, the Gordon technique projects a situation in which at first only the group leader knows the exact nature of the problem to be solved. Thus, for example, if the problem is "to find a new way to park automobiles in a crowded city," the chairman may invite the group members to talk about ways of storing things.[27] The group will continue to produce ideas about storing things until, in the leader's judgment, they hit upon something suited to the particular problem. The leader will then disclose the problem, "parking cars in a crowded city," and the group will proceed to develop specific suggestions for this problem. When they have finally arrived at a specific solution, they move into the second phase of operations, which includes solving problems of production, marketing, etc. The rules for phase one are rather stringent. They involve the application of a set of principles, including: (1) deferment--defer direct confrontation with the problem while related ideas and points of view are generated; (2) autonomy of problem--allow the objects involved in problem to take on a life of their own; (3) use of the commonplace--take advantage of the familiar as a springboard to the strange; (4) alternate between involvement and detachment; (5) use metaphor and analogy.

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[25] See, for example, the following: Arnold Meadow and Sidney J. Parnes, "Evaluation of Training in Creative Problem-Solving," *Journal of Applied Psychology*, XVII (1959), 180-194; Arnold Meadow, Sidney J. Parnes, and Hayne Reese, "Influence of Brainstorming Instructions and Problem Sequence on a Creative Problem-Solving Test," *Journal of Applied Psychology*, XVIII (1959), 413-416; and Sidney J. Parnes and Arnold Meadow, "Effects of 'Brainstorming' Instructions on Creative Problem-Solving by Trained and Untrained Subjects," *Journal of Educational Psychology*, L (1959), 171-176.

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[26] A helpful introduction to Gordon's method will be found in William J. J. Gordon's "Operational Approach to Creativity," Harvard Business Review (November-December, 1956). Gordon has expounded in detail upon the technique and reported upon its accomplishments in William J. J. Gordon, Synectics (New York: Harper and Bros., 1961).

[27] This example is taken from (anon.) Imagination, Undeveloped Resource (P. O. Box 913, Grand Central Station, New York: Creative Training Associates, 1955).

Gordon's book[28] summarizes both the system itself and efforts to evaluate its effectiveness. Lincoln reports that synectics groups have been successfully established at Kimberly-Clark, Dewey and Almy, and the Rockefeller Foundation.[29]

The systems of Osborn and Gordon are two of a growing number of approaches to the problem of getting groups of people to produce more and better ideas. The whole body of such techniques has come to be known as "brainstorming." A book by that title surveys the literature fairly thoroughly.[30] Even with this book it is difficult to estimate the extent of the influence of Osborn's, Gordon's and other people's work on "brainstorming" in industry and elsewhere. It is interesting to note, however, that Osborn is the founder and senior partner of the famous advertising firm of Batten, Barton, Durstine, and Osborn, as well as the founder of the Creative Education Foundation whose principal officers are executives in leading corporations.[31]

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[28] W. J. J. Gordon, Synectics, (op. cit.).

[29] John W. Lincoln, "Developing a Creativeness in People," Parnes and Harding, op. cit.

[30] Charles H. Clark, Brainstorming (New York: Doubleday and Company, 1958).

The second approach to the problem characteristic of the product-economic category of creativity literature is the attempt to control the forces in the working environment which condition creative productivity. Work on this approach has been conducted both in an academic context with an emphasis upon research and in an industrial context with an emphasis upon application. In the academic context, the research program conducted by Fiedler and his colleagues at the University of Illinois is exemplary. This program was comprised of a series of studies designed to assess the relationships among group climate, leader attitudes and intelligence, and group creativity.[32] Fiedler summarizes the major findings of this work as follows:

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[31] The president of CEF is Lee Bristol, Jr., President of the Bristol-Meyers Corporation.

[32] Detailed reports of some of the studies conducted under this program may be located as follows: F. E. Fiedler, W. A. I. Meuwese, and Sophie Oonk, "Performance of Laboratory Tasks Requiring Group Creativity," Acta Psychologica, 18 (1961), 100-119; F. E. Fiedler, P. London, and R. S. Nemo, "Hypnotically Induced Leader Attitude and Group Creativity," Group Effectiveness Research Laboratory (University of Illinois, 1961), mimeo.; F. E. Fiedler, A. R. Boss, and Judith M. Fiedler, "The Leader's Perception of Co-workers, Group Climate, and Group Creativity: A Cross Validation," Group Effectiveness Research Laboratory (loc. cit.), mimeo. Other studies in the program, as well as related literature, may be found in Fiedler, F. E., "A Contingency Model of Leadership Effectiveness," in Experimental Social Psychology (New York: Academic Press, 1964).

> The investigations . . . present a very consistent picture. . . . A harmonious cohesive group presents a favorable climate for the permissive, considerate person-oriented leader, and it permits the leader to contribute to group performance according to his intelligence. A less pleasant, disharmonious group climate requires a more task-oriented, active, controlling leader. Moreover, where stress becomes relatively great, or where the group is not harmonious, the leader's intelligence does not contribute to group performance, whereas the members' intellectual abilities do contribute to a substantial degree.
>
> These findings suggest that the maintainance functions of the leader absorb his energies under stressful conditions, throwing the burden of creative group performance upon the group members.[33]

Within the context of industrial application, work in progress at the Dow Chemical Company seems particularly interesting. This work is a combination of improvement program and evaluative research.[34] In a paper delivered to the Fifth Utah Conference on

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[33] Fred E. Fiedler, "The Effect of Group Climate on the Leaders' Influence on Creative Group Performance," in Calvin Taylor, ed., Widening Horizons of Creativity (op. cit.), p. 409.

[34] Dow Chemical publishes a "Creativity Review" in which their own activities and those of other groups are reviewed: J. H. McPherson, ed., Creativity Review (Midland: The Dow Chemical Company). Specific reports of research on creativity at Dow have been printed separately and include the following of particular note: J. H. McPherson, Independence: An Important Variable in the Description of the Creative Individual (Midland: The Dow Chemical Company, 1962); L. C. Repucci, Definitions and Criteria of Creativity (Midland: The Dow Chemical Company, 1960), mimeo.; L. C. Repucci, The Predictive Value of Unreduced Tension as Related to Creativity (Midland: The Dow Chemical Company, 1962), mimeo.

Creativity, McPherson describes the highlights of the work at Dow.[35] Included are: an Employee Review Board which aims at assuring that employees are placed in positions which allow optimum use of their potentials; examination of labor contracts to determine which of their clauses tend to create conditions favorable and unfavorable to creativity; a program to evaluate research group leaders and subordinates, and to determine the effects of leader and subordinate characteristics upon the group operation (this is similar to Fiedler's work, described above); a course for supervisors aimed at helping them know how to conduct interviews which will help subordinates in their efforts to be productive;[36] and a Management course based on the techniques used to develop group leadership abilities at the National Training Laboratories in Bethel, Maine. Along with these programs and throughout McPherson's paper there is an emerging rationale—a point of view about the overall requirements for maximizing creative productivity within a given corporate body. Though McPherson does not explicate this rationale as such, the following statements from his paper communicate its general characteristics:

> The success of whatever directions are set will depend partially upon the dominant philosophy

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[35] J. H. McPherson, "Prospects for Future Creativity Research in Industry," in Calvin Taylor, ed., Widening Horizons in Creativity (op. cit.).

[36] This course uses Maier's book, N. R. F. Maier, The Appraisal Interview (New York: Wiley and Sons, 1958); and also includes discussion of "the self-actualizing" personality and the conditions that foster self-actualization.

> held by the top management of the organization.[37]
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> . . . .
>
> A shift from benevolent autocracy toward maturity can be assessed by noting an increase in the expectations for aggressive action by staff groups.[38] . . . .
>
> . . . .
>
> We define creativity in such a way that it can be expected from everyone in the corporation.[39]

Finally, McPherson specifies the objectives of the various programs in terms of the effect they are intended to have upon individual employees of the corporation. He acknowledges that these objectives are synthesized from the work of Maslow[40] and Jahoda:[41]

> Briefly stated, our aims are to help individuals move from:
> Dependency to Independency
> Few Ways to Behave to Many Ways
> Passivity to Activity
> Superficial Interests to Deep Interests
> Short Term Perspective to Long Term Perspective
> Subordinate Positions to Equal Positions
> Lack of Awareness of Self as Infant to Awareness and Control over Self as an Adult.[42]

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[37] J. H. McPherson, in Taylor, Widening Horizons in Creativity (op. cit.), p. 414.

[38] Ibid., p. 415.

[39] Ibid.

[40] McPherson cites in particular: A. H. Maslow, "Self-Actualizing People: A Study of Psychological Healths," in W. Wolff, ed., Personality Symposium (New York: Grune and Stratton, 1950).

[41] Marie Jahoda, Current Concepts of Positive Mental Health (New York: Basic Books, 1958).

[42] J. H. McPherson, in Taylor, Widening Horizons in Creativity (op. cit.), p. 415.

Throughout the literature described here as product-economic, we have seen an emphasis upon programs for getting people to produce more and better. The center of gravity for such programs, including concomitant evaluative research, is within the business community. This body of literature shares with the body described as product-political a tendency to focus upon products.

It differs from the latter in that, while the product-political body aims at identifying people who will be productive, the product-economic body aims at squeezing production out of those at hand.

The work discussed thus far has been characterized by a direct concern for what have been called the products of creative thought. In turning now to a brief consideration of some outstanding efforts to understand the creative process itself, a perplexing question might be raised. It is obviously true that in a logical sense understanding of process and understanding of product must ultimately converge. A certain faith in this proposition is demonstrated by McPherson's implicit assumption, in work cited above, that adaptation at the total organizational level of the views of a leading student of process (in this case Maslow) will result in more creative products. A serious question exists, however, as to the relation between what a psychologist interested in the "peak experience" of human existence calls the creative process, and what a corporation employee who must ultimately be interested in corporate profits calls the creative product. The terms "political" and "economic" used to describe two major product orientations are deliberately suggestive of motivations, and motivation, in turn may be thought of in this context as being heavily weighted by a special variety of commitment--what Polanyi calls "the tacit component" of scientific inquiry.[43] It seems likely that the process-oriented work and the product-oriented work may stem from two radically different sets of tacit components--that regardless of definition the very attractiveness of the term "creativity" is dependent for each group of scholars upon these differing sets of tacit components, and that, consequently and in spite of apparent logical necessity the kinds of questions asked must ultimately lead to divergent rather than convergent bodies of knowledge. Contrary to McPherson's faith, the processes which may be projected backwards from the products of interest to product-oriented scholars may look very different from the process of concern to the process scholars; and conversely a forward projection from the processes of interest to process scholars to products may result in products which are different from those of concern to the product scholars.

There are numerous ways of subdividing the process-oriented work. For the purposes of this chapter it is appropriate to consider two sub-categories--the process-behavior category and the process-experience category.

The process-behavior category is comprised of work which in terms of history and methodology properly belongs to a separate literature--the study of thinking. The parent body is enormous,

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[43] Michael Polanyi, Personal Knowledge (Chicago: University of Chicago Press, 1958).

and that offspring which is concerned specifically with "creative thinking" takes its syntax more from the requirements of filling out our understanding of thinking than from the commitment to understanding creativity itself. This syntax determines the kinds of questions about creativity that will be asked, and thus is responsible for the peripheral nature of the contribution it makes to the endeavor to understand creativity. Nevertheless a brief description of some segments of this work is appropriate, even if only to indicate limitations.[44]

The work of J. P. Guilford is of particular note. Through an elaborate series of Factor-Analytical studies conducted over nearly a decade, Guilford has pieced together a model of thinking which he calls "the structure of intellect." The model is a three-dimensional matrix representing the interactions of the operations, the contents, and the products of thinking. The major categories of operations Guilford calls Evaluation, Convergent Production, Divergent Production, Memory, and Cognition. The major categories of contents are Figural, Symbolic, Semantic and Behavioral; and the major categories of products are Units, Classes, Relations, Systems, Transformations and Implications. Guilford and his colleagues have used this model in much the same way that Mendeleev and his colleagues used the periodic table of elements. They have predicted and sought the discovery of discreet thinking abilities corresponding to each cell within the matrix. So far they have established, within the limits of their methodology, some 50 thinking abilities.[45] Thinking ability tests have been developed for each of these abilities.[46]

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[44] A brief historical treatment of the study of thinking may be found in Robert Thomson, The Psychology of Thinking (Baltimore: Penguin Press, 1959).

Though there has been a tendency to equate creativity with the cells on the "divergent production" plane, Guilford himself offers a much more complex description of creativity in the terms of his model. In a recent article[47] he synthesizes Wallas' description of the phases of creativity[48] with his own structure-of-intellect model, indicating a combination of thinking abilities in action at each phase. The divergent production abilities are dominant only at the "idea-generating" phase, which corresponds to Wallas' "illumination" phase.

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[45] A complete description of the Structure of Intellect model may be found in Guilford, J. P. and Merrifield, P. R., "The Structure-of-Intellect Model: Its Uses and Implications," Reports from the Psychological Laboratory, No. 24 (Los Angeles: University of Southern California, 1960). A brief description of the model will be found in Robert Wilson, "The Structure of the Intellect," in Mary Jane Aschner and Charles E. Bish, eds., Productive Thinking in Education (Washington: National Education Association, 1965). Detailed reports of factorial studies, tests, and other aspects of Guilford's work are to be found in the Reports from the Psychological Laboratory, No. 1, present (Los Angeles: University of Southern California).

[46] Guilford acknowledges that the abilities are discreet only in an analytic sense, and that behaviorally, while a given ability may dominate at a given time, there is always interaction among several such abilities. See, for example, Guilford and Merrifield, op. cit.

[47] J. P. Guilford, "Some New Views of Creativity," in H. Nelson, ed., Theories and Data in Psychology (Princeton: D. Van Nostrand Co., 1965).

[48] G. Wallas, The Art of Thought (London: C. A. Watts and Co., 1945).

A second approach to the study of thinking which is of peripheral interest here is work on problem-solving. The solutions to problems meet one of the key requirements of creativity, the production of an entity (in this case an idea or a behavior pattern which solves the problem) which is novel to the subject. Even in the early experiments with non-human subjects some workers found it necessary to postulate a process often used in connection with creativity. Kohler, for example, in his work with apes, talked--somewhat vaguely--about "insight."[49] Exploration of problem-solving in humans has been voluminous, and various theoretical points of view have emerged. Of particular interest here is the work on concept attainment by Jerome Bruner and his colleagues.[50] These workers have developed a clever and elaborate mechanism for making inferences from the behavior to the process of problem-solving. The problems they use involve discovery of a concept which determines the feedback the subject gets from each discreet move in his effort to learn the concept. By manipulating the nature of the concept, the conditions under which the experiment is conducted, and the rules governing feedback, these workers were able to make fairly detailed inferences as to the kinds of "strategies" various subjects use under various conditions to "solve" various kinds of concepts. Detailed description of these variables and of Bruner's conclusions is not pertinent here. Two general observations are: First, although the problems involved in Bruner's concept attainment task have fixed and predetermined solutions, it is possible that from the point of view of the subject they have many of the characteristics of the problems typically encountered, for example, by Gordon's synectics group. This is particularly likely in connection with what Bruner has called "disjunctive" concepts. Thus it is suggested that Bruner's "strategies" may be descriptive of the kinds of processes that characterize efforts to come up with at least some kinds of "creative" products.

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[49] Wolfgang Kohler, The Mentality of Apes (London: Routledge and Kegan, 1925).

[50] Jerome Bruner, J. J. Goodnow, and G. A. Austin, A Study of Thinking (New York: Wiley and Co., 1956).

The second comment is intended to establish the link between Bruner and Guilford, and by so doing to clarify the nature of the process-behavior category--the most tenuous of those to be dealt with in this chapter. Bruner and Guilford have in common the commitment to understanding and describing processes which in some senses include or are related to creativity; and both pursue this commitment through techniques which derive from and yet go beyond the traditional methodology of behavioral psychology. They have both developed techniques for artificially capturing segments or moments of behavior in order to make more detailed inferences concerning sub-tending processes. Both workers, while interested in internal processes, have used comparatively "objective" behavioral data as a basis for inference. In the following section this will be seen to contrast with both the concerns and methods of work in the process-experience category.

Work in the process-experience category in an historical sense also comes to the study of creativity obliquely. Its roots are in the omnichronistic search for a better state of being for mankind. In modern times this search has found particularly cogent expression in a complex matrix of pieces of disciplines which focus upon man's experience of himself. It is significant that many of the modern descriptions of man's experience of himself, though they did not derive from the study of creativity, have included in central positions conceptions of man in his creating aspect. The hallmarks of work on creativity which belong in the process-experience category, therefore, are (1) that it takes its syntax of inquiry from a commitment to understanding and altering for the better man's experience of himself, and (2) that it considers the key to such understanding and betterment to be in the inner process of that experience. Competition for inclusion in this category is high, partly because the assumptions that define the category infuse such a broad spectrum of contemporary intellectual life. The poetry of W. B. Yeats and T. S. Eliot, the novels of James Joyce, Marcel Proust, and Fyodor Dostoyevsky, the music, perhaps, of Alban Berg, certainly the existential psychiatry of Binswanger, the phenomenology of Husserl, the social philosophy of Marcuse, and the drama of Pirandello, all need to be included. For the purpose of making the point, however, a very brief treatment of the centrally relevant ideas within certain modern theories of personality (broadly defined) will be the plan of this section.

Sigmund Freud's work has been among the most generative in modern times. He provided the basic conceptual tools, however crude in some regards, for the study of the phenomena of consciousness. Freud's theory evolved through various forms during the course of his life's work. At almost all points of development, however, it was characterized by a dichotomous view of man.[51] Man is the stage whereon opposing sets of instincts are continuously at war. In his early works the antagonists are a rather simplistic unconscious libido instinct on one hand and a repressive socially determined and conscious set of ego instincts on the other. Later in his work the conflict is between the pleasure principle as instrument of the "Nirvana" instinct and reality principle as instrument of the ego. In his later writings the libido instinct has been expanded to a pan-sexual Eros, or life-instinct, and its antagonist has become the death-wish. Throughout these stages of his thinking, the battle between the instincts is correlated to the relation between conscious and unconscious mentation and to the dynamics of repression.[52] Whatever particular form the battle of conflicting instincts takes, it may always be characterized as a system of tensions between the thrust for expression and the opposing thrust for repression. The manifestations of this dynamic take many forms, including both pathological and creative behaviors. The circumstances in which one or the other type of manifestation will occur are analyzed differently at different periods in Freud's development. One of the more clear, though not necessarily most satisfying, analyses occurs in "The Unconscious."[53] Here Freud argues that if the unconscious resolution of conflict is "ego-syntonic" its expression is creative, and if it is not ego-syntonic it will ultimately emerge in the form of neurotic or other pathological behavior. Elsewhere, the creative and pathological manifestations of conflict were differentiated in terms of the concept of successful and unsuccessful sublimation of libidinous instincts.[54]

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[51] For development of this understanding of Freud's work, Chapter II in H. Marcuse, Eros and Civilization (Boston: Beacon Press, 1954) is helpful. See also N. O. Brown, Life Against Death (New York: Vintage Books, 1959).

[52] Brown calls attention to Freud's own opinion that "the whole edifice of psychoanalysis . . . is based upon the theory of repression." N. O. Brown, ibid., p. 3.

The ramifications of Freud's theory as it applies to creativity are extremely complex. For the purposes of this chapter, the following points are important:

(1) Freud's concern with creativity occurred in the context of his analysis of the processes of psychopathology, and particularly in relation to the doctrine of repression. That is, he saw creativity in relation to disease and in relation to the process of acquiring and protecting psychological health.[55]

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[53] Sigmund Freud, "The Unconscious," The Collected Papers of Sigmund Freud, IV (London: Hogarth Press, 1949).

[54] Ibid.

(2) Freud's analysis of all psychological phenomena including the phenomena of creativity is cast in terms of man's experience of himself at different levels of consciousness. It is in relation to Freud's probing of the phenomena of consciousness that Kneller calls psychoanalysis "the single most important influence on the theory of creativity today."[56]

Kubie's theory of the creative process, which is central to this study, is built upon the Freudian tradition and yet departs from it in several key ways. While the key features of Kubie's work are included in the conceptual model above (Chapter 1), a few comments are in order here.[57] Kubie is strictly within the Freudian tradition in that his commitment is to understanding of the processes of psychological disease and health through analysis of the phenomena of consciousness, that is, of man's experience of himself. He departs from Freud in two major ways which are closely related to each other. First, he has drawn a clear distinction between unconscious and preconscious thought systems, where Freud had only a foggy one. By so doing, he has succeeded in generating a basis for distinction between pathological and healthy processes.

Second, he has succeeded in establishing the place of the creative process among man's richest potentialities in contrast to its traditional position as a bi-product of disease at worst or a mystical ravishment at best.[58]

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[56] George F. Kneller, The Art and Science of Creativity (New York: Holt, Rinehart and Winston, 1965), p. 28.

[57] Kubie's full theoretical description of the creative process may be found in Lawrence S. Kubie, Neurotic Distortion of the Creative Process (New York: Noonday Press, 1961).

[58] Kneller briefly traces this side of the history of the conception of creativity, in George F. Kneller, op. cit.

A third characteristic of Kubie's work which needs to be cited is its expansion of data sources. Whereas Freud depended almost exclusively upon introspective clinical data, Kubie has introduced into his theorizing several other sources of data which, while still essentially introspective, are subject to controls of a sort which are not feasible in the psychiatric interview. The types of data which he claims have tended to validate some of his basic conceptions include: the experimental induction of neurotic states under hypnosis, experimental work with differentiated preconscious perceptions during sleep, experiments on preconscious functions with the tachistoscope, experiments under hypnosis on the symbolic representation of repressed amnesic material, etc.[59]

Carl Rogers, while working out of a theoretical base that is at odds with psychoanalytic theory in many respects, has come to a view of creativity which has one critical feature in common with Kubie's view. For Rogers, as for Kubie, the creative process is viewed as an expression of man's highest potential. Rogers' view, however, is an extension of his psychology of "becoming" which apparently is influenced to a degree by modern existential thought.[60] Much of Rogers' work has focused upon the conditions under which a person can become "more fully himself."[61] The process of becoming more fully one's self involves the discovery and actualization of one's potentialities.[62] The role of the therapist, as well as the role of anyone else in a "helping" relationship, is to provide the conditions under which such discovery and actualization can occur. Rogers considers the tendency towards actualization of self to be basic to all organic life. And, in an important paper on creativity Rogers asserts that "the mainspring of creativity appears to be the same tendency which we discover so deeply as the curative force in psychotherapy--man's tendency to actualize himself, to become his potentialities."[63]

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[59] These data sources, together with their specific referents, are cited in Kubie, op. cit., p. 22.

[60] The influence of existentialism upon American "3rd Force" Psychology, including Rollo May, Gordon Allport, Abraham Maslow, Rogers and others, is given some credence in Rollo May, ed., Existential Psychology (New York: Random House, 1961).

In Rogers' work, then, there is an identification of the creative process with the ultimately healthy processes of organic life. Maslow, in his studies of what he calls "self-actualizing individuals" comes to a similar point of view.[64] He discusses primary creativeness, secondary creativeness, and integrated or self-actualizing creativeness. Secondary creativeness pertains essentially to the use of skills. It "includes a large portion of 'production-in-the-world, the bridges, the houses, the new automobiles, and even many scientific experiments and much literary work'."[65] Primary creativeness involves the free gratuitous acts of discovering or making in a "peak experience" which is free of the restraints that characterize much of our lives. The integration of these two types of creativity are what Maslow calls integrated or self-actualizing creativeness. The overall picture bares a striking resemblance to Kubie's model of the relationship between preconscious creating and conscious validating and communicating. The relation to Rogers' conception of creativity as an expression of the optimally healthy tendency in human life is made clear as Maslow writes:

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[61] Carl Rogers, On Becoming A Person (Boston: Houghton-Mifflin, 1961), passim. See also Carl Rogers, "The Actualizing Tendency in Relation to Motives and to the Unconscious," Nebraska Symposium on Motivation, February 21 and 22, 1966, mimeo.

[62] Rogers, in contrast to Freud, manifests faith in the proposition that the potentialities of the authentically human self are socially viable and "good".

[63] Carl Rogers, "Toward a Theory of Creativity," in Harold H. Anderson, Creativity and Its Cultivation (New York: Harper and Row, 1959), p. 72.

[64] Abraham Maslow, Toward a Psychology of Being (Princeton: Van Nostrand, 1962).

> SA (self-actualizing) creativeness is hard to define because it seems synonomous with health itself . . . And since self-actualization or health must ultimately be defined as the coming to pass of the fullest humanness, or as the "being" of the person, it is as if SA creativity were almost synonomous with, or the sine qua non aspect of, or a defining characteristic of, essential humanness.[66]

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[65] Maslow, ibid., p. 135.

[66] Maslow, ibid., p. 137.

These four writers, Freud, Kubie, Rogers, and Maslow, occupy a central position in the process-experience category. Two other sources should be mentioned in passing, though they are somewhat more at the periphery. The "Theory of Personal Constructs" of George Kelly has important implications for this category.[67] The concept of "construing," while having its roots in cognitive theory, provides a common denominator for the processes of creating and of optimum human functioning in much the same way that Maslow's "self-actualizing" does. And the body of work surveyed and interpreted by White, in his effort to establish the concept of "the competence motive," also suggests that man is somehow at his best when he is encountering and making something new out of his environment.[68]

The final category to be considered here is research on creativity in the classroom. This work is orthogonal to the category system employed above, and serves as a bridge between that system and the task of describing the position of this study.

This section will deal only with the work done by E. Paul Torrance and his colleagues at the University of Minnesota.[69]

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[67] George Kelly, A Theory of Personality (New York: W. W. Norton, 1963).

[68] R. W. White, "Motivation Reconsidered: The Competence Motive," Psych. Rev., 66, 1959.

[69] For a thorough review of the relevant literature, see E. Paul Torrance, "Education and Creativity," in Calvin Taylor, ed., Creativity: Progress and Potential (op. cit.).

Over a hundred papers and several books have emerged from Torrance's work.[70] For the purposes of this chapter, a few of the major concerns and findings will be reported.

Torrance's work is orthogonal to the category system used above in the sense that at one point or another he has expressed the concerns which typify each of the four categories. He has pulled together these concerns in a single chapter.[71] He lists the following as causes for concern about creativity:

> Mental Health (Process-Experience)
>
> There is little question but that the stifling of creativity eats at the very roots of satisfaction in living . . .[72]
>
> Fully Functioning Persons (Process-Experience)
>
> Certainly we cannot say that one is fully functioning mentally, if the abilities involved in creative thinking remain undeveloped.[73]
>
> Educational Achievement (Process-Behavior)
>
> We are finding that the creative thinking abilities contribute importantly to the acquisition of information and various educational skills. Recent experiments have shown that apparently many things can be learned creatively more economically than they can by authority, and some people strongly prefer to learn creatively.[74]

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[70] For a fairly complete list of relevant published papers, pamphlets, and books, see "Publications in Open Sources Related to the Minnesota Studies of Creative Thinking," Bureau of Educational Research, University of Minnesota, mimeo.

[71] Chapter I in E. Paul Torrance, Guiding Creative Talent (Englewood Cliffs: Prentice Hall, 1962).

[72] Ibid., p. 2.

[73] Ibid., p. 3.

[74] Ibid., p. 4.

Vocational Success (Product-Economic)

> . . . it has long been recognized that creativity is a distinguishing characteristic of outstanding individuals in almost every field. . . . It has also been recognized that creativity is important in scientific discovery, invention, and the arts.[75]

Social Importance (Product-Political)

> It takes little imagination to recognize that the future of our civilization--our very survival--depends upon the quality of the creative imagination of our next generation.[76]

For our purposes three major phases of Torrance's work may be recognized--development and validation of instruments to measure creativity, identification of "facilitators and inhibitors of creativity," and identification of some of the problems involved in maintaining creativity.[77] Each of these phases will be described briefly, with sufficient citation to facilitate the location of more detailed information.

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[75] Ibid., p. 5.

[76] Ibid., p. 6.

[77] A fourth phase of Torrance's work, while tangential to this chapter, is important enough to be mentioned. He has made an extensive effort to synthesize his findings and make them available commercially for application in schools. Thus two of his books (Guiding Creative Talent and Rewarding Creative Behavior) are written in a manner that maximizes their usefulness to people who work with children. In addition, he has published two creativity "workbooks" with accompanying teachers' manuals, for use in the primary grades (R. E. Myers and E. Paul Torrance, Can You Imagine and R. E. Myers and E. Paul Torrance, Invitations to Thinking and Doing, both Boston: Ginn and Company, 1965). And the "Sounds and Images" record is commercially available for use as a classroom exercise as well as for research purposes.

The Minnesota Tests of Creative Thinking have evolved through numerous forms. At present, two forms of each of three batteries are commercially available. These are "Thinking Creatively with Words," "Thinking Creatively with Pictures," and "Sounds and Images."[78] ". . . Words" is a test of verbal thinking ability composed of seven sub-tests: (1) "asking" questions about a picture showing a striking or unusual situation; (2) "guessing causes" about the same picture; (3) "guessing consequences" about the same picture; (4) "product-improvement"—suggesting ways of improving a toy; (5) "unusual uses" of an ordinary object such as a cardboard box or tin can; (6) asking "unusual questions" about the same object; and (7) "just suppose" what would happen if, for example, "clouds had strings attached to them which hang down to earth."

The "Pictures" test is composed of three sub-tests: picture construction, picture completion, and lines (drawing pictures using sets of parallel lines provided). "Sounds and Images" is a record in which subjects are asked to guess what is making each of a series of unusual sounds.

Each of the Torrance tests are scored for four creativity "factors," fluency, flexibility, originality, and elaboration.[79]

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[78] Published by Personnel Press, Inc., Princeton, New Jersey, 1966.

[79] For details of scoring, see "Scoring Manuals for Torrance Tests of Creative Thinking" (Princeton: Personnel Press, in press).

Validity of these instruments has been established through two techniques. First, identifying high and low groups on some test measure and then determining whether or not they can be differentiated in terms of behavior which can be regarded as creative or in terms of personality traits which differentiate highly creative from less creative persons, and second, identifying criterion groups on some behavior accepted as creative and then determining whether or not they can be differentiated by test scores. Through several stages of refinement the tests have been brought to a point at which they can be considered valid.[80]

Test-retest reliability has been established over numerous trials with reliability coefficients typically in the .70-.80 range.[81]

In Guiding Creative Talent Torrance discusses the following inhibitors and facilitators of creativity:[82]

Inhibitors

1. sanctions against questioning and explaining
2. over-emphasis or misplaced emphasis on sex-roles
3. the work-play dichotomy
4. the tendency to equate divergency with abnormality.

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[80] Technical details concerning validity and other aspects of the test will be available in a Technical Manual for the Torrance Tests of Creative Thinking (Princeton: Personnel Press, in press).

[81] Ibid.

[82] E. Paul Torrance, Guiding Creative Talent (op. cit.). Torrance cites more detailed sources therein. A discussion of other research evidence in support of his findings may be found in Torrance, "Education and Creativity" (op. cit.), pp. 98-107.

Facilitators

1. rewarding creative achievement[83]
2. helping children recognize the value of their creative achievements
3. teaching children to use creative problem-solving processes
4. developing creative acceptance of realistic limitations in a problem situation
5. avoiding the equation of divergency with mental illness and delinquency
6. modifying the misplaced emphasis on sex roles
7. helping highly creative children become less objectionable
8. developing school pride in creative achievement
9. reducing the isolation of highly creative children
10. providing sponsors or patrons for certain highly creative children
11. developing values and purposes
12. helping highly creative children learn to cope with anxieties and fears
13. helping highly creative children to develop courage and to tolerate the anxieties of being in the small minority, of exploring the uncertain, etc.
14. reducing the discontinuities that seem to be associated with entrance into kindergarten, the fourth grade, and the seventh grade.

Torrance has identified the following "problems in maintaining creativity":[84]

1. maintaining creativity may alienate friends

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[83] This single factor has been explored extensively in E. Paul Torrance, Rewarding Creative Behavior (Englewood Cliffs: Prentice Hall, 1965).

[84] These are discussed in detail in E. Paul Torrance, Guiding Creative Talent (op. cit.), Chapter 6.

2. creative children may not be well-rounded
3. creative children may diverge from sex norms
4. creative children prefer to learn on their own
5. creative children like to attempt difficult tasks
6. creative children may undertake dangerous tasks
7. creative children are searching for a purpose
8. creative children have different values
9. some creative children can't stop working
10. creative children search for their uniqueness.

A concluding observation about Torrance's work is in order. Its orthogonal relation to the four categories described above raises a question first about Torrance's work, second about the area of creativity in general, and third about the location of this study, to which attention shall presently turn. The question is this: is it possible to simultaneously serve the four separate kinds of commitments ascribed to the four categories? Are the requirements, for example, for fostering the creativity that gets bridges built the same as the requirements for fostering the creativity which Rogers calls "becoming one's potentialities"? If they are, then one would predict the discovery of a structural parallelism between the psychological theory of Rogers and the synectic methods of Gordon. Does this parallelism exist? The answer to this question will probably be that indeed the creativities of the four categories, or at least of the two major categories, are different creativities. The consequences of this assertion for Torrance's work would include the likelihood that one of the three following propositions be true; either the variables which facilitate and inhibit creativity are factorable into discreet packages which discreetly effect each of the various creativities; or that the creativities are related in such a way that they are multiple consequences of a single set of variables; or that the creativities are related to each other in some hierarchical way such that manipulation at the apex of the hierarchy has consequences on down the line. Of these alternatives, the third seems more nearly true; that certain creativities are subsumed within others. The relation of this study to the other literature discussed here emerges from this supposition. In planning this study it was assumed that the creativity characteristic of the process-experience category is at the apex of a structure of creativities--that self-actualization, becomingness, or preconscious freedom define the parameters within which one is free to develop one or another of the subsumed creativities. This does not mean that the subsumed creativities are isometric with process-experience creativity. It is likely that between the outer limits imposed upon subsumed creativities by one's state of being with respect to process-experience creativity and one's actual ability lie numerous intervening variables. And it is assumed that the possibilities for subsumed creativities are increased by gains with respect to the process-experience kind of creativity. Still, the focus of this study is the process-experience kind of creativity itself. In maintaining this focus the study is intended to reflect several premises. By focusing upon that conception of creativity which has been identified with psychological health it asserts the educator's proper concern with the quality of human experience. As a corollary to this, it asserts that an "experience" metaphor is a more appropriate heuristic for educational research on creativity than is a "product" metaphor. And finally, it expresses the belief that continued study of the "process-experience" kind of creativity will show the latter to be integrally related to many other processes, including "learning," with which educators are traditionally concerned.

Of the various expressions of the process-experience orientation, the Kubie model was chosen as a point of departure because its apparatus seems capable of generating interesting propositions about classroom events. One might foresee, for example, the emergence of longitudinal curriculum prescriptions based upon a developmental extension of the Kubie model of the creative process. Such prescriptions might be derived from an apparatus for making curriculum decisions in terms of normative data on the developing relations between the conscious and preconscious thought systems. Other propositions might include: analysis of the cultural components of, and socializing processes inherent in, teaching acts in terms of the dynamics of selective repression and expression; rediscovery of an appropriate role in schools for such phenomena as "intuition" and "guessing"; and the discovery of as yet unpredicted implications of the emphasis in schools upon "rational" modes of knowing.

Finally, while not denying the importance to society of the products considered in the product-oriented studies, this study rests upon the social premise that emphasis upon processes of psychological health, including the creative process as construed within the process-experience orientation, will contribute substantially to the development of products which are consistent with the interests of society. One might in fact speculate that emphasis upon "creative" products, unexamined in the light of healthy psychological processes, could prove disastrous to the long-range interests of society.

Chapter III

DESIGN AND INSTRUMENTATION

Design

General Design

It was decided early in the planning of this project that the undertaking had best be thought of as a pilot study rather than a full-fledged experimental study. While the design called for controlled testing of a set of hypotheses, it also was intended to permit a great deal of controlled flexibility in the actual conduct of the research. This decision was based on the fact that the experimenter did not have a fixed operational definition of the experimental variables until he was well into the research. There are several reasons for this. First, there was no precedent for the generation either of hypotheses appropriate to the primary grade situation or for the generation of operational descriptions of classroom procedures to be used, from the conceptual model employed. Second, there was the problem of training teachers to put the experimental variables into practice. Successful training seemed to the experimenter to depend upon the ability of the teachers to develop patterns of behavior which were consistent with their own personalities as well as with the requirements of the conceptual model. Imposition of patterns of behavior which were alien to the teachers' personalities would have made a reasonable test of the model and hypotheses impossible. And finally, because the intent of the experimental variable was to establish a mode of transaction between pupil and teacher, the actual details of the teacher's behavior ultimately had to depend upon her ability to make appropriate instantaneous decisions in terms of immediate teaching situations. Here too the absence of preceding experimentation with the variables of the study made it difficult to specify in advance, except at the grossest level, the precise pattern of teacher behaviors that would constitute the experimental variable.

Technically, the decision to consider this research a pilot study meant sacrificing the generalizability of findings for the sake of a gain in controlled procedural flexibility. Practically this decision involved cutting to the bone the number of subjects and the number of teachers involved in the study in order to gain the possibility of working very closely with the teachers as they went through the process of inventing a teaching technique which was consistent with the requirements of the conceptual model. What this decision lost by way of rigorous testing of clearly operationalized hypotheses it gained by way of opening up for exploration the implications for teaching of the conceptual model. These are presented below in the discussion of the experimental treatment.

Consistent with the foregoing comments, the decision was made to use a single first-grade classroom randomly divided into experimental and comparison groups. These two groups, modified as discussed below, were considered to be roughly equivalent and were exposed to a control group-post-test only design. In spite of the low reliability of randomization with such a small group, this procedure was adopted for lack of a valid and practical alternative. Pre-treatment measures that might have been used to establish matched groups either are inadequately correlated with the dependent variables being studied to provide valid matching, or are related to the experimental treatment in such a way that in interaction with experimental and comparison treatments they may have differentially effected the two groups. Thus, for example, a Torrance Creativity battery may have inequitably cued the experimental group subjects to the expectations of their teacher.

The experimental teacher and the comparison teacher were each selected from training seminars (described below) which were conducted during the semester prior to that in which the research was conducted. These teachers were students in the University of Wisconsin Intern Program. During the semester in which the research program was carried out, they taught full time as a second-grade team in the school used for this study. For a half-hour period every day during the research semester each left her second-grade room to work with one of the two first-grade groups who were the research subjects. Both teachers conducted their work in the context of a "story hour," using nearly identical selections of children's literature.[1] Since the two available rooms were markedly different with respect to physical characteristics, the groups alternated rooms weekly.

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[1] Most of the books used were used by both teachers. Problems of availability as well as the interns' desires to choose materials that had special significance for their groups, resulted in some divergence from the design which called for identical selections.

Towards the end of the school semester, the entire first-grade class was tested in their regular classroom. The experimental and comparison teachers were not present. Instrumentation and analysis of test results are described below.

Subjects

The selection of a school was made on a purely logistic basis. It had to be one in which two of the University of Wisconsin interns, who had volunteered for the training seminars for fall semester, would be teaching during the spring semester. It was preferable that the two interns be working at the same grade level and that their grade level be either first or second grade. Finally, it was necessary to apply to local school officials who in turn had to select a principal who they believed would welcome the project in his school.

The selected school was in a lower middle-class section of a city in south-central Wisconsin. The first-grade class assigned to the project was composed of 16 boys and 13 girls. Each boy and each girl in the class was assigned a number. The numbers were written on cards, and the cards for the boys placed in one box and those for the girls placed in another box. Half of the cards in each box were drawn at random by a disinterested person, and a coin flipped to determine whether the resulting group would be designated the experimental or the comparison group. The remainder were assigned to the other group. The results were an experimental group of 8 boys and 6 girls, and a comparison group of 8 boys and 7 girls.

The group rosters thus determined were submitted to the first-grade teacher to determine whether there were, in her judgment, any gross differences between the two groups that she could recognize at sight. She reported that four of the five outstandingly "bright" children in her class were in the experimental group. In order to correct this situation, a coin was flipped to determine which of the two groups would have three of these five children. According to the outcome of that procedure, two of the outstanding children, whose names were drawn blindly from a box containing the names of the five outstandingly bright children, were exchanged with two children chosen by the same method from the comparison group. The resulting groups were maintained throughout the program.

Teachers

At the beginning of the fall semester, 1965, an invitation was extended to three pairs of interns in the University of Wisconsin Intern Program who would be teaching as teams in second grades during the spring semester. The invitations asked the interns to participate in training seminars in connection with a research project involving first-grade children. At a preliminary meeting the project was briefly described and the interns were informed that they would receive course credit for participation in the seminars in lieu of a required course. Care was taken to explain the experiment only in highly general terms. Hypotheses were not presented. The interns were told that one of the three pairs would be chosen to participate in the experiment in the spring semester, and that participation in the training program would be construed as an expression of willingness to serve in the experimental phase if chosen. The interns were given several days to consider whether they wished to participate and which of the two treatment groups they would prefer. All of the interns agreed to participate, and, on the basis of their preferences, were assigned one from each pair to experimental or comparison treatments. Training seminars, which were conducted separately for the two treatment groups, began immediately thereafter.

The Experimental Variable

Consistent with the designation of this research as a pilot study, the experimental variables were defined in such a way that the details of their characteristics were left free to emerge, within certain governing parameters, through the course of interaction among the experimenter, the interns, and the classroom situations encountered during the training sessions. There were two parameters governing these interactions. First, it was agreed that the dominant intent of the teacher in the experimental treatment would be the protection and enhancement of preconscious freedom. This intent would be preemptive over, but would not exclude, other intents. Thus, for example, the teacher was free to introduce into the experimental treatment any instructional objective and/or technique with respect to children's literature which did not violate the dominant intent.

The second parameter is a set of criteria for decision-making in the classroom. These criteria are inferred from the conceptual model, and, while they are still highly general, were intended to be a semi-behavioral tool to help the teacher make decisions that would actualize her dominant intent. The criteria are:

1. Emphasis on sampling activity. The teacher will assign highest priority to solicitation of sustained production of ideas. "Ideas" here means any product of mentation, in any medium, and therefore includes things as diverse as painting a picture, identifying a feeling, and formulating a scientific test of an hypothesis. "Sustained" suggests that ideas will be treated as stepping stones to new ideas rather than as conclusions.

2. De-emphasis of presentation. A proportionately small amount of time will be spent in formal presentation of materials. Low value will be assigned to it. Data, rather than constructions upon data, will be presented. A story will be read, but the teacher will neither interpret it nor lead the children toward any preconceived interpretations of it.

3. De-emphasis of formal validating activity. The children will not generally be asked to demonstrate the validity of their ideas. They will be encouraged, as in 1 above, to react to their ideas with the further production of ideas. This will result, sometimes, in correction and clarification and validating efforts.

4. Elimination of application of validity criteria other than those emanating from or solicited by the pupil.

5. Elimination of communicated assignment of negative value to children's feelings and ideas.

From the point of view of rigorous experimental design, defining the experimental variable as a dominant intent together with a set of criteria for decision-making raises some problems. First, the experimenter cannot directly manipulate the teacher's intent or application of a set of criteria for decision-making. Second, it is extremely difficult to know, on the basis of observed behavior, whether or not, or to what extent, a given intent is dominant in a teacher's mind. And it is almost as difficult to know whether or not or to what extent a teacher is making decisions in terms of a given set of criteria. These are serious problems. And while an observer protocol was introduced to lend some quantitative support to the contention that the experimental treatment did in fact take place, it must be recognized that this contention rests primarily upon the experimenter's assessment of the integrity and capability of the experimental teacher and upon the unassayed strength of the training program.

The compensating advantage of defining the experimental variable in such a way is the contribution this kind of definition makes to the exploratory function of the study. Considering the insufficiency of prior study of the conceptual model in a classroom context, it would have been premature and possibly wasteful of resources to confine the study to a rigidly operational set of variables. The present approach to defining the variables opens up the possibility of discovering, through the efforts of the research personnel, some of the implications of the model which under a more rigid definition may not have come to light. Further, it was felt that, given the present inadequacy of our ability to control teacher behavior variables even in rigorously delineated studies, the integrity of the interns actually provides a more reliable control than rigid definitions would, providing that a commitment to the research could be elicited. The strategy for eliciting such commitment was to invite the interns to participate voluntarily in the creation of a methodology designed to fit objectives with which they were professionally in sympathy. The objectives offered for consideration were those suggested by the parameters of the experimental treatment. Thus, in a sense, the very looseness of definition of the experimental variables was instrumental in securing that modicum of control which the study can properly claim to have achieved. It should be noted that the resultant process of creating a methodology did not terminate at the end of the training phase, though this was the original plan. Rather the methodology continued to evolve throughout the experimental phase itself.

In summary, the experimental variable was defined as (1) the dominant intent to protect and enhance preconscious freedom, and (2) the application of a set of criteria, designed to fulfill that intent, to the minute-by-minute decision-making process. Control of the experimental variable was dependent upon the interns' integrity and commitment to the intent. The resultant patterns of classroom behavior are discussed below, in Chapter IV.

The Comparison Group

There were a number of problems in deciding upon the kind of experience that would constitute a valid comparison group treatment for this study. Because the subjects involved are normally exposed to a continuous barrage of teaching treatment, it would not be possible to compare the "experimental treatment" group with a "no treatment" group. And because "teaching treatments" vary so much from teacher to teacher it would not make sense to compare the experimental treatment to something called "normal teaching treatment." Further, the possibility of a "Hawthorne" effect in this type of experiment is very real. The problem under study would seem to require a carefully conceived "comparison treatment" which is as special in its own right as the experimental treatment. The validity of the comparison, it was felt, would be further enhanced if the comparison treatment resembled the experimental treatment in certain general ways: the comparison teacher, like the experimental teacher, should be involved in the creation of a set of procedures inferred from a conceptual framework; the comparison treatment should emerge out of a training program in the same way that the experimental treatment does; and finally, the comparison treatment should have a rationale as rigorous in its own terms as the experimental treatment has in its terms. There was one final consideration. In spite of the difficulty of defining a "normal" instructional situation, the idea persisted that the significance of the hypotheses being tested lay in the differences they implied between the experimental treatment and just such a "normal" situation. The key to the solution of this problem would lay in the discovery of a dimension of teaching which (1) remained relatively constant throughout and across the variety of situations thought of as "normal" and (2) distinguished markedly between the "normal" situations and the experimental treatment. The concept of teacher intent, introduced in connection with the experimental variable, proved to be such a key. Thus it was asserted that at a certain level of abstraction the dominant intent of "normal" situations had a common denominator which was not shared with the experimental treatment. The common denominator of "normal" instructional situations was taken to be the presence of a dominant intent to transmit knowledge in some form (facts, concepts, methods of analysis, etc.), while the dominant intent of the experimental treatment was to preserve and enhance preconscious freedom. A significant consequence of this assertion was that it freed the study from the constraint of demonstrating that the teacher in the comparison treatment did not manifest behaviors similar to those deliberately cultivated in the experimental teacher. Thus, while giving dominant attention to the task of transmitting knowledge, the comparison teacher was free also to act in ways that seemed right to her and would have the effect of protecting and/or enhancing preconscious freedom. And the experimental teacher, while giving dominant attention to the task of protecting and enhancing preconscious freedom, was not enjoined against transmitting information when she deemed it consistent with her dominant intent.[2]

On the basis of these assertions it became possible to conceptualize a comparison treatment in the light of the other considerations presented above. To summarize, the rationale for the design of the research demanded a comparison treatment which was (1) as special in its own right as the experimental treatment; (2) resembled the experimental treatment in that its specific procedures would emerge from a conceptual framework out of a training program through the effort of the teachers participating in the comparison group training seminars; (3) and that it would have a rationale as rigorous in its own terms as the experimental treatment is in its terms. Attention to these considerations, it was believed, would prevent both Hawthorne effect and comparison between an experimental treatment and a straw man.

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[2] This mode of distinguishing between "experimental" and "normal" situations is conceptually rigorous, but gives rise to experimental difficulties which are discussed below. It is consistent with the designation of this research as a pilot study.

The present concern among educators with the teaching of "principles" supplied the basis for the formulation of a comparison treatment. It was decided to define the comparison treatment as the effort, or intent, to teach principles of literature to the comparison group through the medium of children's literature. There is ample rationale in the education literature for the teaching of principles to children.[3] There is ample literary criticism and aesthetic analysis to establish the plausibility of the proposition that literature can be construed to manifest highly generalizable and highly subsumptive principles or sets of principles comparable in some sense to those being incorporated into new math and science programs.[4] And finally the gap which had to be filled by the creative efforts of the teachers in the study, between conception and classroom procedures, is of the same order of magnitude with respect to principles of literature as it is with respect to the model of thinking upon which this study is based. The intent to teach principles of literature to the comparison group therefore meets the design requirements for a comparison treatment.

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[3] See, for example, Phi Delta Kappa, Education and the Structure of Knowledge (Chicago: Rand McNally, 1964).

[4] A good overview of theoretical propositions about literature may be found in Rene Wellek and Austin Warren, Theory of Literature (New York: Harcourt, Brace and Company--a Harvest book--1956).

Instrumentation

To test the hypotheses concerning fluency, flexibility, and originality, the Torrance Tests of Creative Thinking, Form A, Figural, and portions of the Torrance Tests of Creative Thinking, Form A, Verbal, were used.[5] Both types of test yield scores for fluency, flexibility, and originality.

To test the hypothesis concerning recall, a very simple test of recall was devised by the experimenter. The Recall Test asked subjects to recall as many items as they could from a pictorial display of twenty items. The experimenter assumed that for a task as straight-forward as this, used in connection with a pilot study, sheer face validity was sufficient to justify use of the instrument without elaborate procedures for establishing validity and reliability.[6]

To test the hypothesis concerning analogy-making, an instrument was designed by the experimenter which asked subjects to think of analogies for each of several base analogues. This instrument seemed to the experimenter to be a little bit more problematic than the recall instrument. An effort was made to set up checks on its validity and reliability, but under pressure of time the difficulties of carrying through such checks proved insurmountable. The instrument has a certain degree of face validity, but lacks the kind of technical study that would have increased the experimenter's confidence in it.[7]

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[5] E. Paul Torrance, The Torrance Tests of Creative Thinking (Princeton: Personnel Press, Inc., 1966).

[6] The items pictorially displayed for this test, together with directions for administration, are given in Appendix A.

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[7] The Analogies Test is reproduced in Appendix A.

Chapter IV

PROCEDURES

Training Programs

General Considerations

The purpose of the training programs was to prepare the interns to conduct the experimental and comparison treatments. It will be recalled that, consistent with the designation "pilot study," the variables of the study are defined primarily in terms of the dominant intent of the teacher, and only secondarily in terms of criteria for decision-making and emerging patterns of teacher behavior. Consequently the training program was thought of as having three main goals--understanding of the ideas and criteria pertinent to the given approach, commitment to the intent of the given approach, and the opportunity both to practice applying the criteria and to evaluate the behavior patterns that emerge in the course of this practice. As goals for a training program of necessarily limited duration and intensity, these are difficult to approach in a highly systematic way. A general strategy was adhered to, but within the broad limits set by this strategy the course of the training programs was highly flexible with decisions being made very much on the basis of interaction between the experimenter and the interns. There were several dimensions to the general strategy.

First, in order to secure a modicum of commitment, the interns were briefed on the general nature of the study and were given both the option to participate or not and the option to be in the experimental or comparison treatment group. Further the interns were given course credit for their participation in lieu of a required professional preparation course, were encouraged to sieze upon some aspect of the study as the basis for their master's papers, and were promised a great deal of latitude with respect to the development of their own methods of applying the conceptions with which we were to deal. In order to protect the commitment from victimization by the kinds of frustrations and disappointments that tend to arise in such situations, interns were frequently to be invited to air their feelings about the program, either in the seminar or in conference with the experimenter.

Second, a "spiral" approach to the acquisition of the concepts pertinent to each treatment was planned. That is, the concepts were first to be encountered in a comparatively simple--even common-sense--form; this to be followed by a focus upon other problems the interns were facing in their weekly practice-teaching sessions, and this in turn was followed by a broader and more sophisticated examination of the concepts in light of the intervening classroom experience, etc.

Third, the weekly practice-teaching itself, as a workshop for the application of ideas growing out of the seminars, was to serve as the vehicle through which each intern could develop her own patterns of fulfilling the criteria for the treatments. Fourth, none of the interns was told anything about the study beyond the requirements of the treatment they were preparing for. They were not told what hypotheses were being examined. There were no references to "experimental" or "comparison" groups. The intern groups were referred to as "The Psych Group" and "The Lit Group." They were told that two orientations were being examined and that details concerning the overall design of the study would be forthcoming after the project was completed.

There are several sources of data on the training program. First there are the interns' logs, the notes they were required to keep upon what for them were the highlights of the training program.[1]

Second, there are notes taken by the experimenter after each training seminar. These are presented in rounded-out form below, as resumés of the training seminars. A deliberate attempt has been made to avoid introducing into these resumés any perspective beyond what was expressed in note form immediately following each session.

Third, there are evaluations of the training program written by the interns. These are reproduced verbatim in Appendix C.

An effort was made to develop an observational instrument to verify the experimental conditions. This effort was abandoned when scheduling problems became insurmountable.

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[1] The logs of the two interns who were chosen to participate in the experimental phase of the study are reproduced verbatim in Appendix B.

There is no adequate record of the classroom experiences of the interns during the training phase. This is due partially to technical problems with recording equipment and partially to a tactical error on the part of the experimenter.[2] There is some useful material in the interns' logs. The experimenter's seminar notes also contain some information that was brought in by the interns.

The report on the training phase thus is based primarily upon the experimenter's notes. This is supplemented by the interns' logs and evaluations.

Resumé of the Experimental Group Seminar

Session 1.--This session was opened with the question "what is freedom of mind." Discussion first centered upon the attempt to specify what a person who had freedom of mind would be like. The most recurrent term was "creative." "Feeling at ease" was mentioned often. The term "warm" occurred several times and was challenged. "Are free people necessarily warm?" was asked, and this lead to the question "what kinds of factors affect freedom of mind in young children?" A list of contrasting qualities was made in response, consisting of such pairs as "warm--strict," "orderly--rigid,"

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[2] The experimenter assumed that if he made recorders readily available and discussed with the interns some of the uses to which recordings could be put, they would take initiative in recording regularly. This assumption proved false.

"flexible--static." The discussion turned to the question of "expectations" created by a teacher. Finally questions were raised concerning the relation of freedom of mind to intelligence, to beauty, to creativity, to "children's ability to sense things." It was suggested that freedom of mind is "the conscious use of more of your mind." The experimenter asked whether adult culture as experienced by children tended to favor or oppose freedom of mind. An article by Eugene Gendlin on "The Discovery of Felt Meaning" was assigned.[3]

Session 2.--This session was a free-for-all on creativity. Personal experience, pet ideas, bits of theories or other scholarly work, reference to the arts, all occurred. Towards the close of the session attention was turned to the problem of recognizing creativity. Mimeographed transcripts of classroom incidents were handed out with the intent of examining them for evidence of teaching practices that affect creativity negatively or positively and for information concerning the comparative usefulness of the product or process approach to identifying creativity.

Session 3.--This session was primarily devoted to discussion of the classroom incidents distributed in Session 2. The experimenter frequently referred to the most recurrent terms and concepts of the two previous sessions. Some new terms were introduced, such as "motivation" and "learning" and discussed in terms of their relation to creativity.

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[3] Eugene Gendlin, "The Discovery of Felt Meaning," in James B. Macdonald, ed., Language and Meaning, Association for Supervision and Curriculum Development, NEA, Washington, D. C., 1966.

Several articles were suggested but not assigned, including Robert White's "Motivation Reconsidered"[4] and sections of George Kelly's Theory of Personality.[5] Finally, an attempt was made to anticipate some of the problems the interns might encounter in their forthcoming first practice-teaching session. The interns were given a set of children's books from which to select one for use in this first session. No suggestions were made with respect to the instruction that was to take place, except that it was agreed to attempt to solicit some kind of "creative" or "free" response to the story from the children.

The interns were asked to keep logs of their experiences which would form the basis of seminar discussion for the coming few sessions.

Session 4.—The first part of this session was used by the interns to express a wide range of feelings about the chaos that had, in their perceptions, characterized their first teaching session. After some time the experimenter asked whether they had been successful in bringing about "freedom of mind," and whether it was possible to distinguish clearly between chaos and the expression of freedom. There was intuitive agreement that such a distinction must exist, but attempts to draw the distinction clearly failed.

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[4] R. W. White, "Motivation Reconsidered: The Competence Motive," The Psychological Review, 66, 1959.

[5] George Kelly, A Theory of Personality (New York: W. W. Norton, 1963).

Attention was then turned to the account of one intern. She had read a story about a bird[6] and invited the children to act out the part of the bird--to show how the bird felt. The children began to flap their way around the room making crow-calls, etc. The intern was pleased at first but after a while thought it looked silly and meaningless. She was unable to decide what to do and unable to recover the childrens' attention until the end of the period. This incident is important because it contained the form of what was to be the most difficult and persistent problem encountered by the interns in this group--the relation between freedom and control in the classroom. This became the dominant theme of the next several sessions.

Towards the end of the session the feelings of the interns finally jelled into a series of very clear and somewhat angry declarations to the effect that "we don't know what you want us to do." In the remaining time the experimenter presented in outline the notion of preconscious freedom and the conceptual model from which the notion arises. The experimenter said that he wanted the interns to focus their efforts on the solicitation of expressions of preconscious thought and to try to figure out what kinds of controls were detrimental and what kinds were necessary to this endeavor. A paper by Kubie was suggested[7] and children's books were selected for the next practice-teaching session.

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[6] Tico of the Golden Wings. Here and in the following pages children's books are referred to by title only. All children's books used in the study are listed with complete citations in Appendix D.

[7] Lawrence S. Kubie, "Research on Protecting Preconscious Functions in Education," Nurturing Individual Potential (Washington, D. C.: Association for Supervision and Curriculum Development, 1961).

Session 5.--Session 5 was divided between two activities. First, the interns reported in detail upon their most recent classroom efforts. During this portion of the seminar we deliberately took frequent excursions into the interns' feelings about the teaching situations, their feelings while teaching, and their feelings about the project and the demands it was making upon them.

In the second portion of the session we moved into a closer look at the conceptual model and explored some rather specific questions arising out of the first portion: "is it all right to tell a pupil to stop doing something?"; "is it all right to get angry?"; "what do I do if there's one kid who keeps messing everything up?"; "what kind of freedom is it if they just want to beat each other up?" etc. The experimenter rather persistently responded to these questions by asking what kinds of answers are suggested by the model. At the close of the period the experimenter suggested that it would be economical to develop a set of criteria in terms of which such questions could either be answered or determined to be orthogonal to the concerns of the model. He presented the five criteria mentioned above and requested the interns to evaluate, modify, and attempt to improve upon them. Kubie's book was assigned.

Session 6.--The experimenter attempted to direct discussion to the criteria presented in Session 5. The interns however preferred to exchange incidents of their past week's teaching experience. The incidents reported had in common the failure to resolve the freedom-control problem. The problem seemed to have crystalized somewhat, however. In essence the situations they seemed to be describing involved an initial granting of freedom, a subsequent division of the group between those who chose to participate in activities with the teacher and those who chose not to, and finally a situation in which the teacher's efforts to interact openly with a small group are interrupted by angry, tenuous, and guilty attempts to get the rest of the children quiet enough so that the little group was not distracted. The conflicts and ramifications in this situation put the interns under great stress, which accounted, in part, for their persistent desire to spend the period exchanging stories.

The discussion took a turn towards the end which might have been but was not anticipated. Rather abruptly the interns decided that they needed some instructional objectives that had something to do with the stories they were reading to the children--"We've got to teach something. You can't just sit around creating freedom."

We agreed to spend the next session discussing three children's books, one selected by each of the interns.[8]

We also agreed to come back to the problem of control the following week. The experimenter suggested that we invite as a guest a person with a wide variety of experiences in elementary education. The suggestion was accepted with enthusiasm. Plans were made to have a guest in Session 8.

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[8] I'm Tired of Lions, Johnny Crow's Garden, The Wizard of Oz.

Session 7.--The discussion began with each intern briefly describing the book she had selected. Questions were raised about the value of each particular book for children. These questions were not answered. We moved into a general discussion of "what these kids are supposed to get out of the stories," and from here plunged into a heated debate over the relation between the intent of the experimental treatment and the intent of instruction. In the course of this debate a great deal of confusion and antagonism was expressed with respect to the program. Exploration of these feelings was encouraged by the experimenter. Towards the end of the period, he reiterated the following points, all of which had been made at some time earlier in the program:

> The experimental treatment posits the dominant intent of protecting and enhancing preconscious freedom.
>
> It posits a set of criteria, subject to modification, to be applied to decisions pertinent to the conduct of teaching.
>
> Any instructional objective which does not contradict the dominant intent or the criteria may be pursued.
>
> Any instructional technique which does not contradict the dominant intent or the criteria may be used.

These observations were found helpful, even though they did not directly solve the problems that had been raised. It was suggested that the crux of the matter was whether or not the dominant intent of the experimental treatment was in itself sufficient to generate plans for teaching. We tentatively concluded (1) that it might be sufficient to a teacher who knew a lot more about techniques for "soliciting sustained production of thought" than any of us at the present did, but (2) that with respect both to our present inadequacy and to the instructional function of the teacher in most schools it would be most sensible to think of the dominant intent as functioning in conjunction with instructional objectives. This discussion represented an important breakthrough in the training program. First, it gave the interns a way out of the freedom-control problem which had plagued them. They began to see that simply offering a set of activities, designed with an instructional objective in mind, minimized the kind of "free behavior" that constituted a threat to the teacher. They were still concerned that these activities might restrict preconscious freedom. Nevertheless they began to think of their job as giving freedom within the context of a carefully designed set of restrictions, rather than as giving freedom by removing all restrictions. It was suggested that the behavior they had seen emerging as a result of their efforts to remove restrictions had in fact been guided by a more subtle and stultifying set of restrictions imposed upon the group by their own psycho-social makeup.

Session 8.--We began by outlining to our guest the kind of problem we had been struggling with.[9] Under the guest's guidance our discussion turned quickly to the use of choice as a classroom strategy. The timing here was particularly fortunate. The interns quickly grasped the idea that the very simple device of giving children sets of carefully conceived choices could be used to communicate to the children both the concept of freedom within a set of restrictions and the specific set of parameters for freedom which the teacher wished to establish. The interns expressed an interest in trying applications of this idea in their next teaching session. The last part of the session was spent in discussing rather detailed answers to the question "what kinds of choices can we realistically offer first-grade children which will serve some instructional purpose without violating the five criteria?"

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[9] Our guest, to whom we owe thanks for her help at this important point in the training program, was Mrs. Esther Zaret, who is an Assistant Professor of Education at Marquette University, Milwaukee, Wisconsin.

It was agreed that for the next session we would attempt to list a wide range of activities that could be used in conjunction with children's stories. Each intern assumed responsibility for contributing observations in connection with a particular book of her choosing.

Session 9.--Early in this session the interns expressed the feeling that they had little to say to each other at this time. They felt that they were involved in different situations with different problems, and that they needed time both for planning and teaching before they would be ready to discuss what they were doing. The session was adjourned.

Session 10.--In light of the fact that this was to be our third from last meeting, the experimenter felt that some important decisions had to be made. There were more tasks remaining than we really had time for. It was clear that, while the interns gave evidence of a decent general understanding of what we were trying to do, they were still encountering serious problems in their classroom work. It seemed unlikely that these problems would be solved by the beginning of the experimental phase of the project. On the other hand, individual discussions with the interns left the impression that their commitment to the project was strong in spite of their feelings of frustration.

In the light of these impressions, two decisions were made. The first was to share with the interns the thought that a good many of their problems might with no adverse effect on the project be worked out during the early part of the research phase itself, when they would be seeing children every day. So long as a basic understanding of and commitment to the experimental treatment were present, the experimenter stated, the actual codification of techniques could emerge on an in-service basis during the second semester. While this was not specifically a part of the original design of the study, it is not inconsistent with the definition of the experimental variable which places stress upon intent and application of criteria rather than upon teacher behaviors. The decision seemed to make sense in terms of the exploratory nature of the study.

The second decision was to suggest to the interns that we call a halt on our tendency to become rather abstract in our discussions and instead draw up a plan together for dealing with whatever they identified as their most pressing needs in relation to the project.

These decisions were carried out. The plans we drew up for our remaining time were as follows. First, the interns would go back over their logs and attempt to pull from them accounts of their most successful experiences. These would be presented and analyzed for the benefit of the intern that would be chosen to participate in the experimental phase.

Second, we would attempt to specify the kinds of behaviors we had learned to anticipate from children in response to the experimental conditions and to discuss the implications of these expectations for the planning of the experimental treatment. Third, we would spend time specifically helping the selected intern, who would be identified by Session 11, begin planning. And finally, we would attempt an overall evaluation of the training program. The experimenter requested that evaluations be written so that they might become part of the data of the study. They are reproduced verbatim in Appendix C.

Session 11.--Christmas vacation had intervened between Sessions 10 and 11, with unfortunate loss of focus. This effect was compounded by the fact that the interns had only two weeks of classes between the end of vacation and the beginning of final exams and term paper deadlines. On top of this, announcement of the name of the intern who would participate in the experimental phase had a complex and generally depressant effect upon the group. We attempted to talk about key incidents recorded in the interns' logs, but this was unsuccessful for lack of preparation. One of the interns expressed the opinion that they "had never been told much about how you go about getting kids to produce ideas." The experimenter referred to several articles that had been suggested early in the semester but never brought into our discussions, and asked whether they might not serve as a jumping-off point for developing appropriate techniques.[10]

These papers were briefly discussed with the effect of focusing our attention on two questions: (1) what kinds of questions tend to solicit thought with first-graders, and (2) what other variables besides types of questions could be manipulated to solicit thought. No one had much to contribute towards answering these questions, but it was felt that, consistent with the decisions made for Session 10, the questions themselves could serve as a focal point for the experimenter and the selected intern during the early part of the experimental phase.

Session 12.--We spent the first half of this session talking about ways the experimental teacher might go about planning for the coming semester. Several points met with general agreement:

1. The teacher should begin by establishing the idea that there were certain restrictions of physical motion and rules of courtesy which she expected to enforce, but that within these limitations children could say and think whatever they wanted to. Techniques for establishing this idea were discussed. It was unanimously agreed that the critical element was the teacher's own certainty and firmness, and that given this, appropriate patterns of reinforcement would naturally tend to emerge. The intern pointed out that she was not certain or firm, and that saying she should be wouldn't solve the problem. It was suggested that she might make a provisional commitment to a set of procedural rules. The implications of this suggestion did not come fully to light at this time. During the course of the experimental semester, however, this idea

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[10] Eugene Gendlin, op. cit., and James Raths, "Clarifying Children's Values," mimeo.

blossomed into a useful tool and one of the more exciting incidental insights provided by the study (see pages 106, 124-127).

2. That the teacher should have some definite instructional plans which would provide a focus of interest. These plans would be used to initiate activity, but they would yield to the requirements of the experimental treatment.

3. Plans should specifically include at least two types of options: first, a choice among stories and activities as a group focus; second, a choice between participating in the group activity and participating in some other activity which would not disrupt the group. This second kind of option was regarded as particularly important. Our expectation was that careful planning of options could considerably reduce the teacher's problem of having to divide herself between the roles of disciplinarian and soliciter of free thinking processes.

4. It was suggested that as a followup to ground covered in Session 11 the teacher and the experimenter work together to formulate specific techniques for soliciting the sustained production of ideas.

In the second portion of the session we moved on to evaluation of the program. The interns reported the main points of their written evaluations. There was not much interest in discussion, so the session was adjourned.

Resumé of the Comparison Group Seminar

An attempt was made to conduct the comparison treatment training program in a fashion that closely resembled the experimental treatment training program. Differences in the nature of the material to be dealt with as well as differences in the kinds of problems encountered by the two groups of teachers as a result of their contrasting intents was a limiting factor upon this effort. These differences will become apparent in the following section.

Session 1.--The experimenter opened the session by asking "what are structures and does literature have any?" Jerome Bruner was immediately cited. All the interns had read The Process of Education.[11] Though no precise definition of structure was offered, it seemed clear that we had a decent common understanding of the term, and so we proceeded to the second part of the question--does literature have principles? No one seemed certain, but it was agreed that we could proceed, upon the assumption of an affirmative answer, to look for such principles. The experimenter reiterated to the interns that the job they were preparing for was that of "laying the foundations for the understanding of literary principles," and that if they all felt moderately comfortable with the assumption that literature has principles, we could get on with the job of discovering some of them and figuring out how to teach in terms of them. During the ensuing discussion, it was agreed that two further assumptions needed to be made: (1) that some of the structures of literature per se were also operant in "children's literature," that is, that children's literature does in some senses belong in the general category "literature," and (2) that it is possible to teach children's literature to children in such a way that children will acquire some "functional recognition" of these structures. The term "functional recognition," while not precisely defined, was intended to convey the conviction we shared from the beginning that we should guard against the kind of teaching of principles which would result in verbal familiarity with technical devices without any "feel" for the way they worked.

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[11] Jerome Bruner, The Process of Education (Cambridge: Harvard University Press, 1961).

At the close of the session we attempted to name some principles of literature and to discuss their functions. The single concrete suggestion was that "rhyme and beat" in poetry make it easy to remember.

The interns were assigned the task of locating a piece of literature they knew and liked and preparing to talk about its structures. The experimenter volunteered to talk about the structures of the Shakespearean Sonnet "That time of year thou mayest in me behold."

A suggested reading list of critical writings on each of four genres of literature was presented, together with some general critical works.

Session 2.--The assignment proved too difficult. The experimenter made his presentation, which was followed by unsuccessful efforts by the interns to talk about the pieces they had selected. We moved on to a more general discussion of literary structures. This discussion revealed to the author the limitations of the group's knowledge of literature and generated a decision on his part to suggest that we narrow the range of our effort to a particular literary genre. The short story was suggested for several reasons: a number of complete pieces could be examined in a relatively brief time; the problems of attaining a simple surface understanding are not as severe, generally, as they are in poetry; it was suspected that the short story had more in common with children's literature than did other genres; and finally, the experimenter was familiar with an excellent critical work on the short story which was well suited to our task.[12]

This suggestion was accepted, and so in the remaining time the experimenter previewed the key concepts in Schorer's book. Sections of Schorer were assigned.

Session 3.-- In this session we attempted to extract, primarily from the introductory chapter, Schorer's basic assumptions about the structure of the short story. The most basic assumptions, one assumes, are intended by Schorer to subsume a much broader range of literature than the short story.

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[12] Mark Schorer, The Short Story: An Anthology (New York: Alfred Knopf, 1959).

At the highest level of abstraction we recognized the principle that "literature conveys meaning and that the meanings it conveys are intrinsically united to the structures in which they are conveyed." This principle generated the first criterion for the comparison treatment--that whatever structures we attempted to teach would be taught in terms of their contribution to the meaning conveyed by the piece in question. Without our explicitly recognizing it this criterion was to generate the prototype for the pedagogy of the comparison treatment. The thrust of inquiry was always to go beyond naming a structure to questions of the type "what would be the effect of changing this structure in a given way?" That is, all structures were viewed as being subsumed by the basic structural proposition that specific structures are the means by which meaning is conveyed.

Schorer's second principle contributed to our understanding of the first. The primary thesis of his book is an expansion of the statement he quotes from Goethe that "art exists in limitation." Schorer says:

> Fiction is, or can be, an art, and art, if it is about anything, is about life, but exactly because it is about it, it is a different thing from it. The very obviousness of this proposition makes it elusive. . . . Life offers all the subjects of fiction, but fiction itself must choose the subjects it will treat, and then treat them.[13]

Structures, then, are viewed by Schorer as the choices an author makes in the effort to convey meaning. And the choices he makes constitute his vehicle for conveying his sense of the meanings in life.

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[13] *Ibid.*, p. 4.

This second principle, that art exists in limitation and that the choice of limitations constitutes the author's vehicle for conveying meaning, provides the framework in terms of which we were to attempt to understand specific literary structures of a lower order of abstraction.[14]

Our discussion of these principles did not follow the coherent pattern of the above explication of them. Still it is the experimenter's conviction that recognition of these principles was the product of a rather loose discussion. It was agreed that in our next session we would examine some of the specific structures presented by Schorer. Sections of Schorer were assigned.

Session 4.--In this session we briefly discussed several specific structures:

(1) Point of view. The author has to choose who shall tell the story. The author himself? The author as literary personna? A narrator? A character within the story? What kinds of meanings can be conveyed through which of these points of view? The most common structure is that in which the omniscient author tells the story in the third person; this lends itself to thematic contrast between a character's perceptions or illusions and the author's grasp of reality. Other choices lend themselves to other sorts of thematic material.

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[14] An interesting parallel may be drawn between the conception of art as choices from life in its totality and Kubie's conception of conscious behavior as a sampling of the total preconscious activity.

(2) We explored in less detail choices concerning the use of characters, the structure of plot (e.g. critical events are internal or external, plot culminates to a reversal, revelation, or epiphany), and the use of images.

(3) Finally we began to explore the "illusion-reality" structure of stories. The importance of this structure rests with the fact that while art is about life it is also often about itself. That is, in the very act of imposing limitations upon life art rarely avoids either presenting its own subjects as choosing their sets of limitations in order to create meaning in their lives, or presenting a contrast between its subject's perceptions and the author's omniscient perceptions, or presenting a number of subjects with conflicting perceptions of reality.

This phase of the discussion did not go very well. As our time was nearly over, it was agreed to adjourn, and to prepare to move next time into a new undertaking--the examination of some children's books in light of the structures we had discussed. It was agreed that we would all read The Tales of Peter Rabbit.

Session 5.--Session 5 was devoted to a critical analysis of Peter Rabbit with respect to the structures discussed previously, and to planning for the interns' first practice-teaching session.

The interns were incredulous about the proposition that Peter Rabbit was susceptible to literary analysis. They had all read it since Session 4, but had nothing to say about its structure. The experimenter presented a brief analysis of one set of structural features. This set--contrasts and similarities among the character of Farmer Brown, the character of Mrs. Rabbit, the final sequence of incidents, and the moral of the story--was chosen for the clarity with which it exemplifies the relationship between structure and meaning. This presentation was followed by a fairly careful discussion of the concepts of character and point of view, as defined by Schorer, in relation to Peter Rabbit.

Finally, a short time was spent in helping the interns prepare to teach Peter Rabbit in their first class sessions.

Session 6.--This session was spent largely in an unfocused discussion of "what happened" in the interns' teaching efforts. There was no coherent analytic or academic thread, but the experimenter felt that something of importance, which he could not quite grasp, was occurring. Consequently the discussion was allowed to continue for most of the period. A half-hour before the session was over the experimenter asked whether there was anything particular we needed to do in the remaining time. It was decided to look at some other children's books, which were immediately available to us. These books were Where the Wild Things Are, Little Blue and Little Yellow, and Tico of the Golden Wings. We touched briefly upon one key structural characteristic of each book. For Where the Wild Things Are we talked about the structural devices, including illustration technique and word sounds as well as literal elements, which express the relationship between reality and imagination at the heart of the story. With Tico we compared Lionni's manner of delivering a moral with Potter's (Peter Rabbit). We touched upon the plausibility of regarding Little Blue and Little Yellow as a novitiate experience in symbolism.

We came back to the problem of what in particular we might do next time to help the interns. They agreed to choose books themselves for their next teaching session, and to come back to the seminar next time prepared to suggest to each other specific techniques for communicating structures to children.

Session 7.--This session again began with interns telling what happened. The experimenter asked quite early whether this was how we wanted to spend our time or whether it was happening because no one was directing attention to anything else. This lead to a series of evaluative comments about the program, which the experimenter explicitly welcomed. Through this discussion a problem was clarified which was to remain one of our key problems throughout the training program. The interns seemed to feel that it was all very well to have "functional understanding of literary principles" as a long-range objective but that it didn't make sense to "just go in and teach literary principles to first-graders."[15] This problem was analyzable into two distinct parts. First, the interns had to recognize that their lack of experience and skill at this point was a limiting factor upon their approach to teaching literary structures. They had so far limited themselves to a rather head-on verbal approach characterized by a fairly rigid single-minded intent. This would not be sufficient. It was agreed that we needed to seek a broad range of classroom activities, both verbal and nonverbal, which would support the general intent of the program. This was to be our focus for next session.

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[15] This problem has its parallel in the experimental group's problem described on page 78.

Second, however, we gave some consideration to the proposition that, given the most skillful and imaginative of teachers, the intent to teach literary structures might still profitably be combined with other sorts of objectives. Out of this discussion grew a formulation which stuck with us through the program, without ever becoming as clear as one would have liked. We made a distinction between "teaching literary structures" on the one hand and "teaching in the light of our knowledge of literary structures" on the other. Though the term was not used in this session, this formulation lead the way to the concept of "dominant intent" which is so critical to the definition of the variables in this study. The interns began to recognize at this point that they "could teach literary structure without teaching literary structure." Another way it was put was "You can have a free discussion with no advance plan at all, as long as your (the teacher's) comments are consistent with and implicitly convey the sense of structure you wish to communicate in the long run."

Finally, towards the end of this session, we turned our attention to a long-range plan for our work together. The experimenter asked the interns to consider how the seminar could best contribute to their progress in developing the "literary" treatment. It was agreed that for the next few weeks we would take a specific structural element each session, review Schorer's treatment of it, and come to the seminar prepared to generate ideas for incorporating a treatment of that element into class activities. We were to try to exemplify our ideas with specific children's books. The experimenter noted, however, that the interns seemed to feel that the seminar was not of great importance at their present stage of development. The interns suggested that if they followed up each of the next few siminars with lessons based upon the seminar material "things would improve." The inconsistency between this and the discussion above went unnoticed. We decided to talk about "character" in Session 8.

Session 8.--Our discussion of character was poor. No one had ideas they wished to share. An intern pointed out that "our groups are so different and we have different problems." The interns seemed to want to work on their own without the seminar. We agreed not to meet the next week, and to talk about "symbolism" the following week. The session was adjourned early.

Session 9.--No meeting.

Session 10.--It was pointed out that Christmas vacation would intervene between this and the next session, and that following vacation we had only two sessions remaining. We agreed to save some time at the end of the session for planning our last two sessions.

Our discussion of symbolism followed the agreed-upon pattern. We talked first about the meanings Schorer attaches to that term. The main point we stressed was that in Schorer's view symbolism is not a device some authors use but rather an inherent dimension of all literary expression which is developed more or less fully by various authors. In one sense the symbolic level of a story is represented by the confluence of all the structural choices an author makes in order to convey meaning, and stands counterbalanced against the literal, or "surface," line of events. We felt that there were two possible approaches to symbolism with first-graders. The first was simply to leave the concept implicit in the act of discovering meaning in stories. In this approach the concept itself would not be directly examined at all, or at least not until the process of discovering meaning through confrontation with a range of authors' structural choices was quite familiar to the children.

The second approach would teach symbolism directly through books in which the symbolic dimension was particularly strong in relation to the surface dimension and in which there were clearly recognizable and discreet symbols present. Included in this approach might be a close examination of that particular set of forms of symbolism called metaphor.

We did not choose between these two approaches. However we went on to discuss two children's books which seemed particularly appropriate to the second approach. These were Little Blue and Little Yellow and Where the Wild Things Are.

We went on to explore several possible activities which could be used in connection with teaching symbolism: Ask children to describe a character who was angry without using the word angry; Ask children what kind of weather it would be in a mystery story or a love story or an adventure story; Have children draw particular kinds of feelings without showing any characters who feel that way, etc. We were not entirely satisfied with these, but felt that they might provide a basis for experimenting in class which would in turn lead to new ideas.

Rather spontaneously we turned to the task of thinking up devices for communicating other structures: the use of constructions to illustrate the relationship of author to narrator to characters in the story; the use of a display of faces and words from which children select combinations for particular kinds of stories they wish to tell; the use of a series of drawings of the same object in different styles to parallel the stylistic structure of stories in relation to their meanings, etc.

Finally we came back to the task of planning for our last few sessions. We agreed that our time should be spent specifically in tasks that would help the intern who was going to work next semester in planning for her job. We divided the task into three units. Two interns would accumulate a list of specific activities that might be used in connection with specific structures. The third intern would accumulate a descriptive bibliography of children's books that might be particularly appropriate for teaching specific structures. The experimenter would draw up a general outline of the ground we had covered and a very open-ended and flexible outline of strategies that might be employed in planning.

It was further agreed that the interns would prepare written evaluations of the training program, and that we would save some time in the last meeting to discuss the key points in their evaluations.

Session 11.--Christmas vacation intervened between Sessions 10 and 11. At the beginning of the session the experimenter announced the name of the intern who would be conducting the literary approach in the experimental phase of the research. This had an effect upon the group which seemed to make discussion difficult. The experimenter invited the interns to discuss their feelings about the decision, but the results were platitudinous. The experimenter moved into a presentation of the notes he had made pursuant to the agreement of the previous session. The effect of his report was to raise questions about several possible ways of organizing the content of the "literary approach" for the coming semester. We explored the possible advantages and disadvantages of three types of organization: (1) moving from the more comprehensive principles to less comprehensive ones; (2) moving from the less comprehensive to the more comprehensive; (3) explication of comprehensive principles, followed by "discovery" of specific principles and instances of principles; (4) explication of specific instances of principles followed by attempts to induce more comprehensive principles; (5) "spiral" approach to organizing confrontation with principles; and (6) planning only to read stories with multiple structures and following children's lead into exploration of structures. Of course no decision was intended or made. We discussed some of the implications of each approach and made suggestions as to the details that would be involved. The selected intern felt that all these suggestions were useful, but that she would have to feel her way into a plan that would probably combine elements from several of the suggested patterns. Discussion turned again to the distinction between "teaching principles" and "teaching in the light of our knowledge of principles." The meaning of the latter expression was not clarified but was felt to express better than the first the intent of our undertaking.

The intern assigned the task of compiling a descriptive bibliography reported on her work. The two interns who were to report on activities had nothing to present. The session was adjourned.

Session 12.--We briefly discussed the salient points from the interns' evaluations. The difference in investment between the intern who was continuing and those for whom this was the last session seemed to make discussion extremely difficult. The selected intern expressed the feeling that "if the training program were beginning now I might feel ready to begin the experiment the semester after next." The experimenter pointed out that he would continue to work with her in developing the approach at least in the early part of the semester, and that she was not expected to have perfected a method at this time. This seemed to help. The interns all agreed that whatever else could be done could best be done between the selected intern and the experimenter. Session 12 was adjourned.

Treatment Programs

General Considerations

During the course of the spring semester, the participating interns met daily with the experimental and comparison treatment groups. The program began two weeks after the opening of the semester and ended two weeks before the end of the semester--11 weeks in all. The meeting time was the first period after lunch, and it lasted 30 minutes. The interns, who were employed regularly as part of a second-grade team in the same building, came to the first-grade room to meet their groups. One group remained in the first-grade room and the other group went to the small second-grade "team-room" which was separated from the main second-grade room by a movable and relatively soundproof screen. Because the two rooms were markedly different in several respects, it was agreed that the treatment groups would alternate rooms weekly.

Sources of Information on the Conduct of the Treatments

While the burden of the argument for two treatments which differed according to design requirements rests primarily upon the training programs, there are several corroborating sources of information.

The first source, which is most convincing to the experimenter but which has lowest public validity, is the experimenter's own observations and conferences with the interns. These were conducted on a weekly basis in the early part of the program and then gradually tapered off.

Second, an observation check-list was employed by an outside observer who had no knowledge of the hypotheses or variables under investigation. This observer worked independently of the experimenter. The number of such observations was limited by scheduling difficulties to the point where the check-list data is useful only in a crude descriptive sense.

The final and most important sources of corroborating data are the records kept by the interns themselves. Both interns kept reasonably detailed records of their plans, of important classroom incidents, and of their feelings and ideas about their work in progress. These records were incorporated into their Seminar Reports.

The findings from these three sources of data are discussed briefly below. The interns' logs are reproduced in Appendix E.

Experimenter's Observations

The observations to be reported here deal with conceptual features of the treatments and with some specific problems encountered in the experimental treatment. Details concerning the contents of various lessons, specific books or ideas discussed, etc., are recorded in the interns' logs.

The experimenter observed each treatment group six times during the course of the program. During the first three observations he focused his attention primarily upon the task of spotting cues to the interns' dominant intent and decision-making strategy. In Figure 2 below, typical notes from observations of the experimental group are matched with notes concerning similar categories of behavior in the comparison group.

Comparison of Behaviors Typical of Two Treatment Groups

Experimental Group	Comparison Group
Asks questions continuously.	Uses questions following presentations.
Questions often use "how do you feel about. . ." formula.	Questions are typically "what do you think."
Asks questions about process of group itself.	No comparable observation.
Questions reflect ambiguity of intent.	Questions focus clearly on features of stories.
Intern typically responds neutrally to children's ideas (shake of head or uh-huh), addresses follow-up question to same student.	Intern typically restates or comments upon answers to questions, moves on either to a new question or to another pupil with same question.
Intern typically expresses a wide range of emotions, including detached annoyance, conflict between responsibility to entire group and to an individual or sub-group, intense involvement and pleasure with individual or sub-group.	Intern typically maintains a happy, friendly attitude, and handles threats to maintainance of that attitude by sharp, quick, professionally detached reprimand.
Intern appears to be exploring a variety of approaches to freedom and control. Efforts result both in a welcomed openness and a confusing inconsistency.	Intern has no control problem. Discipline maintained and freedom controlled indirectly by requirements of task.
Intern seeks direction from children.	Intern has clear sense of direction of lesson.

Figure 2

The experimenter attempted to observe the two treatments with respect to the five criteria pertaining to the experimental variable. He noted the following:

Criterion 1.--The experimental treatment intern devoted much more effort to solicitation of ideas than did the comparison treatment intern. The questions used by the experimental treatment intern to solicit thinking tended to be open-ended, while the questions asked by the comparison treatment intern tended to call for convergence upon information the intern had or upon material she had presented. The experimental treatment intern asked questions that often reflected response to affective components of the situation. The comparison treatment intern asked fewer such questions.

Criterion 2.--The experimental treatment intern did less presentation of ideas directly and less presentation of ideas by indirectly converging upon them through questions than did the comparison treatment intern.

Criterion 3.--Both interns asked children to explain their ideas. Neither pushed very hard for formal validation.

Criterion 4.--The comparison treatment intern was slightly more prone than the experimental treatment intern to apply her own criteria of correctness or validity to children's ideas.

Criterion 5.--The experimental treatment intern showed more negative affect in response to children's behaviors than did the comparison treatment intern. Neither teacher showed negative affect with respect to children's ideas. The experimental treatment intern, in showing negative feelings towards certain behaviors, tended also to show them toward the feelings subtending the behaviors. However she tended rather consistently to follow up such expressions with an attempt to have the child express the feelings verbally. When she was successful at this she seemed also to be somewhat successful both at exploring the feeling with the child and at separating behavior from feeling enough to make clear that she accepted the feelings while rejecting the behaviors. This success was somewhat tenuous and spotty, however.

By contrast, the comparison treatment intern rarely dealt directly or at length with feelings or "out-of-place" behavior; the behavior was controlled by focus upon the task at hand, and feelings simply were not explored very often or very far.

The experimenter recorded the following opinions at the conclusion of these three observations of each intern: (1) that in a gross sense the treatments differed both with respect to dominant intent and with respect to decision-making processes. The experimental treatment intern seemed to be guided by a concern for establishing psychological freedom of some sort which could not be precisely defined; and the comparison treatment intern seemed to be guided by concern for the tasks at hand, which reflected more or less directly at different times an effort to communicate insight into the structure of literature; (2) that criteria 1 and 2 seemed to discriminate between the two treatments much more powerfully than did criteria 3-5; (3) that distinguishing between the treatments in terms of dominant intent seemed much more valid, though from the points of view of operational definition and measurement much more tenuous, than distinguishing between treatments in terms of behavior criteria; and (4) that the freedom-control issue which had occupied much of our attention during the training phase, now manifested itself in an unanticipated form related to (3) above. By allowing freedom at the outset, the experimental treatment intern permitted problems to develop which were far more threatening to the intern and to the children than anything that occurred in the comparison group. Consequently the experimental treatment intern was under considerable strain, often resulting in such behaviors as expressing intense anger at liberties taken by one group which made another group's work impossible, which violated the behavior criteria in ways that the comparison treatment intern did not. The efforts of the experimental treatment intern to face this problem dominate her log. And to the experimenter this problem seemed to be the critical test of the viability of the experimental treatment.

Over the following weeks observations were less regular and less systematic. The comparison treatment was proceeding smoothly. The experimenter felt that by virtue of temperament the comparison treatment intern violated fewer of the behavior criteria than the "average" teacher does, but that still her focus was clearly and competently upon the job of dealing with principles of literature. Criteria 1 and 2 still seemed to distinguish her work clearly from that of the experimental treatment intern, though here, too, the contrast was less great, in the opinion of the experimenter, than would "typically" be the case.

During this period the experimental treatment intern, in conference with the experimenter, planned a strategy which she hoped would solve or at least alleviate the freedom-control problem. The basic strategy was designed to meet several needs. First and most simply, it was intended to reduce disorder to a limit which permitted the intern to work with individuals and sub-groups without having her attention continuously drawn away. Second, it was intended to facilitate a separation of overt acts of a disruptive kind from the feelings and thoughts surrounding them. The intern quite reasonably felt torn apart by the conflict between her anger at certain behaviors and her desire to be receptive to feelings and ideas. And third, to maximize the intern's availability in the perceptions of the children, it was designed to remove from the person of the intern the authority role which adheres to the maker and keeper of laws.

The strategy involved several phases. First, a clear-cut and firm pronouncement of rules of conduct and an explanation of the way in which these rules relate to the efforts and needs of both the children and the intern. Second an invitation to the children to set up their own means of enforcing the ground-rules; and third, opening up to the children the possibility of modifying the ground-rules through democratic procedures.

The experimenter felt that this plan (1) was not inconsistent with the intent of the experimental treatment, (2) might relieve the intern in a situation in which she might otherwise feel increasingly unable to meet the demands of the experimental treatment, (3) but that there was danger of the strategy and its mechanism itself becoming the dominant intent of the experimental treatment intern. The intern was encouraged to attempt the strategy. At her request the experimenter refrained from observations in the early part of the intern's effort. Her log notes must suffice for a record of this period.

Scattered observations were made throughout the remainder of the program. The experimenter continued to make himself available for conferences for interns. In the occasional conferences held, the comparison treatment intern would report that things were going well and that she had no particular problems to discuss. This was in agreement with the experimenter's observations. She would occasionally request materials--pictures, puppets, etc.--which the experimenter procured for her.

The experimental treatment intern reported that the new strategy was working well and not interfering with her main concern. This conformed to the experimenter's observations. The experimental treatment intern had now established a situation in which she was able to work much more intensively with small groups of children than had been the case. Development of ideas came more easily than had been the case earlier, children responded more freely to the intern, and with less interference from other sub-groups.

A new problem emerged in this period, however, which shed interesting light on the experimental variable. The problem concerned a conflict between commitment to an individual and commitment to a group. There was one boy in the group who was extremely talkative and had very good ideas. However he found it difficult to stop talking once he had started, even when he had run out of things to say. He appeared to become deliberately "silly" and seemed to be provoking the intern. The intern felt that he should have ample opportunity to talk and that she would like to help him clarify the intent of what he was doing. But she also felt that he was depriving other members of the group. This problem was not adequately resolved, but it did subside after a while. It points to the possibility that in some respects and under certain conditions the experimental treatment is such that its intent cannot be fulfilled uniformly with a group of children--that in effect what is required by the intent for one child or sub-group of children may be in direct conflict with what is required by the same intent at the same time with another child or sub-group of children.

For his final set of observations the experimenter went back to the list of paired observations compiled after the first three weeks to try to gain perspective on changes that had taken place during the semester. Results are shown in Figure 3 below.

These observations suggest that while most of the differences were maintained over time, the comparison treatment intern was more stable in her approach than was the experimental treatment intern. At the end of the treatment programs the experimental treatment intern was still struggling with problems which seem to be inherent in the experimental approach. It seems possible that the experimental approach is necessarily an extremely difficult and stressful one--perhaps too stressful for a large number of teachers. The experimental treatment intern, however, seemed to have preserved the integrity of the dominant intent of the program. In this con-

Paired Observations of Two Groups
Early and Late in Program

Early		Late	
Experimental	Comparison	Experimental	Comparison
Asks questions continuously.	Uses questions following presentation.	No change.	No change.
Questions often use "how do you feel about . . ."	Questions are typically "what do you think . . ."	Uses "feel" for questions about self, and "think" for questions about materials.	No change.
Asks questions about process of group.	No comparable observation.	Invites group to discuss its maintenance problems and social problems.	No comparable observation.
Questions reflect ambiguity of intent.	Questions focus clearly on features of stories.	Questions more focused than before, show "probing" rather than ambiguity.	Intent still clear, but broadened to a less direct connection to features of story
Intern typically responds neutrally to children's ideas, addresses followup questions to same student.	Intern typically restates or comments upon answers to questions moves on.	No change.	No change.
Intern typically expresses a wide range of emotions.	Intern typically maintains a happy, friendly attitude.	Much less visible anger and frustration.	A bit more annoyance or impatience is visible in intern's behavior.
Intern appears to be exploring a variety of approaches to freedom and control.	Intern has no control problem. Freedom controlled by requirements of task.	Intern has made progress with this problem. Still exploring.	No change.
Intern seeks direction from children.	Intern has clear sense of direction of lesson.	No change.	No change.

Figure 3.

nection it should be noted that while the experimental treatment intern seems to have passed the peak of stress in her class at the end of the program, the comparison treatment intern seemed to be just beginning to feel stress. One might speculate as to the long-range prospects here. Projecting the two treatments indefinitely into the future, one possibility is that the comparison treatment, having no means for dealing with stress, might ultimately degenerate into the emotional stalemate with subtle undercurrents of anger that characterizes many classrooms, while the experimental treatment, in its bungling, up-and-down sort of course, perhaps has the capacity for maintaining its own integrity through direct confrontations among persons in an inherently stressful situation.

In conclusion, the experimenter is of the opinion that the two treatments differed substantially in accordance with the nature of the experimental variables.

The Independent Observer and the Observation Check-List

The independent observer was a graduate student in the Department of Curriculum and Instruction at the University of Wisconsin. He observed each intern twice. His visits fell in the middle of the semester.

The observer used a 20-item check-list with four response categories for each item. The items reflected the five behavior criteria associated with the experimental treatment. The four response categories were YES (the teacher is very much like this), yes (the teacher is somewhat like this), no (the teacher is not much like this), and NO (the teacher is very much unlike this). The instrument is reproduced in Appendix A.

The original intent was to treat the data obtained from this instrument analytically. The small number of observations combined with the weak discriminating power of the instrument for those observations eliminated this possibility. Instead the discriminations that were made will be described below.

Only four items discriminated consistently over the several observations. These were items 1, 8, 11, and 14. Table 1 summarizes these data.

These observations tend to support the contention that the treatments differed with respect to criteria 1, 2, and 5. The support for criterion 5 contrasts somewhat with the experimenter's observations above. Support for criteria 1 and 2 and absence of support for criteria 3 and 4 are consistent with the experimenter's observations.

Interns' Logs

The interns' logs constitute the third source of data concerning the conduct of the treatment groups. It is the least neat of the three sources because it was not reproduced through the convergent conceptual eye of the experimenter. But conversely, it is the most valid source precisely because it is relatively unmediated. The logs reflect in what strikes the experimenter as an authentic manner the guiding concerns of the interns who actually did the experimental work, and they present in reasonable detail the manner in which these concerns were enacted in the classrooms.

A COMPARISON OF OBSERVATIONS OF EXPERIMENTAL
AND COMPARISON GROUPS ON 4 ITEMS

Item	Criterion	Experimental Group		Comparison Group	
		1st Observation	2nd Observation	1st Observation	2nd Observation
1. The teacher's main emphasis is upon soliciting expressions of thought from the children.	1. Emphasis on sampling activity.	YES	YES	Yes	Yes
8. The teacher encourages expression of personal feelings.	5. Elimination of assignment of negative value to children's ideas and feelings.	YES	YES	Yes	No
11. The teacher seems to have certain ideas or information which she tries to get across to the children.	2. De-emphasis of presentation.	Yes	No	YES	YES
14. When a teacher reprimands a child for his actions, she follows up this reprimand by helping the child identify the feelings that made him act that way.	1 and 5. (See above.)	Yes	Yes	No	No

TABLE 1

The logs speak well for themselves. No effort will be made here to summarize them. However the following opinions of the experimenter concerning them might be noted:

(1) They clearly reflect two distinctly different sets of dominant intents, in accordance with design requirements.

(2) The intents reflected are roughly equivalent to those specified in the definitions of the independent variables.

(3) The log of the experimental treatment intern reflects a pattern of rising and falling stress. This is in accord with the experimenter's observations above.

(4) The log of the experimental treatment intern is multidimensional. It reflects overlapping concern for a number of dimensions of the experimental treatment.

(5) The log of the comparison treatment intern, by contrast to (3) above, seems to reflect a comparatively constant level of stress. That level appears to be less than the average level of stress for the experimental treatment intern.

(6) The log of the comparison treatment intern, by contrast to (4) above, is one-dimensional. It reflects serial concern for related sub-topics of the comparison treatment.

(7) The log of the comparison treatment intern seems to be a professional record of plans and events, while the log of the experimental treatment intern seems to be a personal record of a sometimes bumbling struggle to fulfill a commitment.

These observations are not inconsistent with the inferences from the other two data sources. They add some dimensions, however, which are discussed in the final chapter.

Collection of Data

The data which were used to assay the hypotheses of this study were collected over a week's time immediately following termination of treatments. A week end intervened between final treatment sessions and first "testing" session.

Instrumentation was divided into two batteries. The first battery consisted of tests which could be administered on a group basis. The second battery consisted of tests which required individual administration. The group battery was the Torrance Test of Creative Thinking--Figural, Form A. The individual battery was the Recall test, the Analogies test, and items 4 and 7, ("Product Improvement" and "Just Suppose") from the Torrance Test of Creative Thinking--Verbal, Form A.

A tester and two assistants administered the group battery on the morning of the first day of testing. The test was conducted in the first-grade classroom. The participating interns were not present, and no mention was made of the relation between the testing and the experimental programs.

The individual testing was done over the following four days. Children were released from class individually by the first-grade teacher, and told to proceed to conference rooms which were made available for this purpose. At the completion of the battery, children were told to return to the classroom.

Differences between testers was minimized to some degree by the use of standard instructions and protocol, gone over with care before testing. Timing on all items was by stop-watch. Time-limits were rigorously observed.

Though it would have been desirable to systematically distribute experimental and comparison subjects across testers and across time, this was not done. Considering that measurement in this study was fairly crude, such an undertaking would have constituted an unwarranted burden upon the efforts of the first-grade teachers to do their job under already trying circumstances. And since the pattern of releasing children was centered upon the activities of ability-grouped reading groups which were heterogeneous with respect to experimental and comparison subjects, it was assumed that a significant treatment-time-tester interaction would not occur. A record of sequence and tester was kept for a check. This record bore out the above assumption.

During the middle of the testing week, a child in the class was killed in an automobile accident. The testers indicated that this seemed to have an impact upon subjects' responses to test items. Examination of scores preceding and following this day did not support the testers' belief.

Chapter V

ANALYSIS OF DATA

Scoring

The Torrance tests of Creative Thinking were sent to The Bureau of Educational Research at the University of Minnesota to be scored by trained personnel under the direction of Dr. Torrance. Scores for fluency, flexibility, and originality were derived for the "figural" form collectively and for each of the two items of the "verbal" form, providing a basis for testing hypotheses A, B, and C of the study. In addition a fourth score, "elaboration," was derived. This score does not bear directly upon a hypothesis of the study. Still, these scores were analyzed and are included in the discussion below. The scoring procedure used conforms to the procedures published with the tests.[1]

The "Analogies" and "Recall" tests were scored by the experimenter, providing the basis for testing hypotheses D and E. Although the scoring procedure was quite straightforward, names of subjects were masked before scoring was begun.

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[1] E. Paul Torrance, Scoring Manual for the Torrance Tests of Creative Thinking (Englewood Cliffs: Personnel Press, in press).

The Recall test was scored simply by counting the number of correct responses. The Analogies test was scored by counting responses which met the following criteria:

(1) Responses had to be structurally congruent with their analogues to be counted as analogies. For example, "scissors and paper" could be counted an analogy to "hammer and nails," but "scissors and knives," "scissors," or "paper," could not. "Sledge-hammer and stake" could be counted as an analogy to hammer and nails (but see qualification in (2) below), but "sledge-hammer" could not and "stake" could not.

(2) Repeated use of one of several entities in an analogue could not be counted more than once. For example, if "hammer and nails" were the analogue, "hammer and tacks" could be counted; but if it were followed by "hammer and screws," "hammer and brads," "hammer and staples," these items would not constitute additional countable analogies. Similarly, if the analogue were "duck's feet," the list "swans' feet, geese' feet, gulls' feet" would be counted as one response.

(3) With respect to analogue number 6, "when your father is angry at you it's like volcanoes in your head--what is it like when you feel happy?," descriptions of situations in which the subject feels happy, and synonyms for happy, were not counted as analogies. This criterion was not entirely satisfactory, because it led to distinctions, between such responses as "it's like getting ice cream five times a day" and "it's like having ice cream in your brains," which may not be valid. A relatively small number of such distinc-

tions were called for, however, so that this inadequacy is not likely to have significantly effected group scores.

Analysis and Results

The Torrance tests provided scores for fluency, flexibility, originality, and elaboration on each of three items--total scores for the figural test, item scores for "Product Improvement," and item scores for "Just Suppose." The "Recall" test provided one set of scores, as did the "Analogies" test. Thus there were a total of 14 sets of scores to be analyzed. Each of these sets of scores was subjected to analysis by means of 't' tests.[2] These analyses showed that the two treatment groups did not differ significantly from each other on any of the 14 sets of scores. Means for the two groups on each of the 14 sets of scores are shown in Table 2.

In Table 2 the measures with asterisks are those which favored the experimental treatment. Of the 11 measures that bear directly upon the hypotheses of the study (that is, discounting the three measures of elaboration), 8 would tend to support the hypotheses. Thus there is a degree of support for the hypotheses concerning fluency and flexibility on the Figural battery and on the "Just

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[2] The Cochran-Cox adjusted 't' was used to compensate for the lack of homogeneity of variance. This test is described in George A. Ferguson, Statistical Analysis in Psychology and Education (New York: McGraw-Hill, 1959), p. 143.

MEAN SCORES FOR EXPERIMENTAL AND COMPARISON GROUPS ON FOURTEEN MEASURES

	Analogies*	Recall*	Creative Thinking - Figural			
			Fluency*	Flexibility*	Originality	Elaboration
Experimental Group	9.21	7.62	19.31	14.23	27.15	22.15
Comparison Group	8.57	7.15	17.62	12.85	27.62	23.92

Creative Thinking - Verbal

	Product Improvement				Just Suppose			
	Fluency	Flexibility	Originality	Elaboration	Fluency	Flexibility	Originality	Elaboration
Experimental Group	14.54	4.92	11.69	7.93	7.69	1.71	2.36	6.43
Comparison Group	16.08	5.85	9.69	9.92	6.46	1.00	1.23	6.23

*Denote those measures in which the means favor the experimental treatment.

TABLE 2

Suppose" test, but not on the "Product Improvement" test; and there is a degree of support for the hypothesis concerning originality on the "Product Improvement" and the "Just Suppose" tests, but not on the Figural battery. It seems likely that the Figural battery is the most reliable of these measures since the other two are only single items out of a battery. On this basis support seems strongest for the Fluency and Flexibility hypotheses. But this support is weak. Likewise, the Analogies and Recall tests suggest weak support for the Analogy-Making and Recall hypotheses.

Chapter VI

DISCUSSION

Failure of Hypotheses

The failure of the study to confirm its hypotheses may be examined from several viewpoints. First, it is possible that the model from which the hypotheses were generated does not describe the variables considered with sufficient accuracy. This is a tenable explanation, but one which is not capable of direct verification. The experimenter would reject this explanation pending further investigation of the generative power of the model.

Second, it is possible that the hypotheses are not accurately inferred from the model. Of the several possible errors of inference, the most important has to do with the comparative strength of the two sources of disruption of preconscious freedom. The experimental treatment focused primarily upon the relation between the PCS and the CS. The hypotheses therefore imply the inference that disruption of the creative process attributable to the UCS is not of sufficient magnitude to render negligible the effects upon the creative process of manipulations of the relation between the PCS and the CS. It seems possible to the experimenter that this inference is faulty--that is, it seems possible that disruption of the creative process attributable to the UCS is of such magnitude that manipulation of the CS-PCS relation, without concomitant attention to the UCS, can have only a very small effect upon measurable creativity. This very small effect may be measurable in a more refined experimental setting with a more intensive experimental treatment, but for the purposes of this study it would be negligible.

The implications of this possible reason for failure to confirm the hypotheses lead into the difficult problem of the role of psychotherapy in school. To what extent is it possible for the teacher deliberately to undertake exploration and manipulation of her pupils' unconscious processes? What might the role of the psychiatrist be in the school and what would his relation be to the teacher? While the experimenter has no evidence to convince him that the inference under discussion here is in fact faulty, he thinks that the possibility is worthy of investigation.

A third way of accounting for the failure of the hypotheses is that the actual experimental treatment did not conform adequately to its theoretical specifications. There are a number of ways in which this could have come about. First, the problem of conceptualizing the experimental treatment in operational terms, as described in Chapter III, was extremely difficult, and may not have been adequately solved. Second, the training program may not have been adequate. The interns were involved over the same period of time with other professional courses which may have been in sharp conflict with the training seminars. Practice teaching sessions were too few and too far between. The program depended almost exclusively on the leadership of the experimenter. Third, the treatment depended on the commitment and the ability of an intern involved in her first full-time teaching experience. It is possible that a truer rendering of the experimental treatment may have occurred under less stressful circumstances.

While evidence is mustered, in Chapter IV, in support of the argument that the experimental treatment took place, the experimenter is of the opinion that some or all of the above factors contributed to a less than perfect correspondence between the actual treatment and its theoretical specifications. It seems likely that this played a part in the failure of the hypotheses.

A fourth way of accounting for the failure of the hypotheses is the possibility that there was not adequate contrast between the experimental and comparison treatment. While the interns in each group were apparently quite rigorous in their efforts to avoid communication about the substance of their respective approaches, still they were acquainted, shared other classes, and probably did discuss the various aspects of the teaching profession. Thus a certain amount of indirect communication may have occurred. Also the two interns in the experimental phase of the program did work together as part of a second-grade team. Thus they would necessarily have seen each other in action. Even though the context of this action was not the experimental or comparison treatment program, it is possible that here too some cross-fertilization took place.

A fifth possible explanation for the failure to confirm the hypotheses of the study may be that the experimental treatment was of insufficient duration or intensity. As suggested in Chapter I, the experimental treatment was conceived in part as an antidote to the repressive tendencies of schools. Since the experimental subjects continued to function in the typical school situation for most of the day during the experimental phase of the study, it is possible that the experimental treatment is conceptually correct but insufficiently powerful. This possibility would require further study.

A sixth possibility has to do with the operational definition of the dependent variable. In Chapter II it was suggested that the sort of creativity with which this study is concerned is a general or global characteristic which defines the parameters within which specific creative abilities may be developed. But because the experimenter was unable to solve the problem of measuring this global characteristic directly within the context of this study, the dependent variable was operationally defined as a set of creative abilities. Thus it seems theoretically possible that the experimental treatment could in fact affect preconscious freedom without affecting "subsumed creative abilities" at all or to a measurable degree. Exploration of this possibility would be facilitated by an extension of the conceptual model employed in this study to include hypothetical propositions concerning the relation between preconscious freedom and subsumed creative abilities. Such an extension might employ the notion of learned heuristics which direct the combinatorial activity of the PCS within its general limits of freedom. The heuristics themselves may highly abstract symbolic representations of characteristic modes of experience. They may be verbal and/or nonverbal. They probably would not be conscious. They may be strongly influenced by unconscious symbol-production. To the extent that they were, they would be extremely difficult to modify; their modification and the consequent modification of specific creative abilities might require that the experimental treatment attempted in this study be accompanied by the kinds of treatments for which psychiatrists are especially competent, as suggested above.

It is difficult to foresee the form that examination of these speculations might take. The point here is to suggest the possibility that inadequate operational definition of the dependent variables may have contributed to the failure of this study to confirm its hypotheses. The way in which this situation might be corrected in future studies is not clear.

The seventh and final possibility to be considered here is that effectiveness of the experimental treatment or contrast between the two treatments was minimized by teacher personality variables. The experimenter has been aware of the extent to which personality variables have entered into every phase of this study. In particular, the adequacy of the concept of dominant intent itself, which is at the heart of the matter, is subject to question from the point of view of personality theory. At the very least one may wonder whether a "dominant intent" acquired through a one-semester training seminar can really be expected to guide the subtler components of teacher behavior unless this intent is congruent with less superficial personality components. Seen in this light, an adequate training program in preparation for a treatment such as that attempted in the study would in effect involve manipulation of personality. While there is no direct evidence to suggest that personality variables did in fact militate against an adequate experimental treatment in this study, the experimenter has come to suspect that an altogether different approach to the examination of the conceptual model employed in this study may be required--an approach which does not depend upon manipulation of personality. One such approach is suggested in the final section of this chapter.

There are, then, at least these seven factors which may have contributed in varying degrees to the failure of the study to achieve confirmation of its hypotheses. The experimenter thinks that the first explanation, that the model is seriously at fault, should be rejected pending further study. Of the other six factors, the experimenter feels that the third (disparity between theoretical and actual treatment), the fifth (inadequate duration and intensity of treatment), the sixth (the problem of operationalizing the dependent variable), and the seventh (teacher personality), are probably the major contributing factors. Plans for further examination of the model or the hypotheses of this study should include specific procedures for controlling these factors more adequately than was done here. The duration and intensity problem is simply a logistics one, and not difficult to solve. The problem of operationalizing the dependent variable is more complex. Its solution would depend in part upon the development of a measurement technology not now available, and/or successful extensions of the model itself in directions suggested above in order to generate a more accurate description of the relations between preconscious freedom itself and specific creative abilities.

The other two factors are more integrally related to the conduct of the experimental treatment itself. Suggestions for controlling them are implicit in the major recommendation for future study at the end of this chapter.

Findings

Insight into the usefulness of the model employed in this study for classroom research centers upon the freedom-control problem referred to frequently in Chapter IV. This problem came to light in the very first practice-teaching session of the training program, and persisted through the study.

There are basically two ways in which this problem can be approached. The first would be to consider it as extraneous to the experimental variable--an accident of personnel which would not have occurred with a more experienced teacher. The second way would be to regard the problem as a necessary and integral part of the experimental treatment.

The experimenter regards the second approach as more nearly true, for reasons which, though they had gone undetected until the study was well under way, are implicit in the assumptions of the study itself. In ascribing a repressive role to the school in Chapter I, the study is asserting that children in school are denied the freedom to express and explore certain kinds of experiences. Kubie argues that paramount among these is the complex of experiences surrounding the meaning of authority:

> The schoolroom and the school as a whole confront the child with surrogate parents and siblings. If we were naively optimistic we might expect that schools would long since have seized on this as an opportunity to explore each child's responses both to parental authority and to sibling rivalry, so as to help him to understand himself in these basic relationships and thus to achieve a capacity for mature self-direction. Instead, in most schools the structure of school "society" is such as to allow the child merely to relive blindly the buried hates and loves and fears and rivalries which had their origins at home--sacrificing understanding to some limited degree of blind "self-mastery." Schooling tends rather to accentuate whatever automatic patterns of child-to-adult and child-to-child relationship each child has brought to his school years, and not to change them. The schoolroom as we know it tends neither to balance nor to neutralize these conflict-laden feelings, nor to render them less fixed and rigid by bringing them within the reach of conscious selection, direction, and control. Self-control as taught is limited to a control of the secondary consequence of these conflicts, never directed at their inner sources. The exceptions to this are rare. At best, most schools today constitute a pragmatic test of the extent to which a student as he comes to them can either accept or reject or modify or exercise authority.[1]

The teacher who in accordance with the requirements of the experimental treatment invites exploration of her pupils' feelings about authority invites challenge, hostility, strong and deep-rooted expressions of anger, etc. In this light, the freedom-control problem may be seen to have two closely related dimensions. First, in making the transition from automatic control of behavior to the sort of self-control which involves first becoming conscious of and then mastering profound feelings, there would seem to be an inevitable period in which control of any sort is tenuous. Second, the teacher involved in the experimental treatment held a bi-valent role. On the one hand she was the solicitor of freedom, the person who asked children to explore themselves and to give expression to what they found. On the other hand she was the authority figure who was personally responsible for maintaining order as defined by institutional protocol. This not only put her under stress, but also must have resulted in ambiguous and conflicting signals to the children which placed them under stress.

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[1] Lawrence S. Kubie, Neurotic Distortion of the Creative Process (New York: Noonday Press, 1961), pp. 116-117.

The combination of these several factors would seem to account for the major characteristics of the experimental treatment program. That authority should be questioned and explored is predictable from the nature of the experimental variable and Kubie's assertions quoted above. That these questionings and explorations should produce a situation characterized by loss of control follows from the fact that the transition is indeed a difficult one requiring both unlearning and extremely difficult new learning. One might even speculate that these characteristics of the program--the stress, the questioning, the loss of control--are the best evidence obtained for substantiating the existence of the experimental treatment. Consistent with this is the observation on pages 36-44 passim of Chapter IV th
the comparative lack of stress in the comparison treatment program

suggests failure to encounter crucial problems rather than adequate solution of them. The most important observation, however, has to do with the teacher's effort to handle the freedom-control problem by removing responsibility for institutional protocol from her own person to an impersonal and more highly institutionalized set of rules which have some of the characteristics of a game. This move, if successfully accomplished, would have at least two effects. First, it would reduce or eliminate the bi-valence of the teacher's role, thereby making her a more consistent and more trustworthy exponent of psychological freedom in the perception of the children. Second, since the rules of the game provide for both execution and alteration, within limits, by the pupils, it provides them with a symbolic apparatus for exploring authority without enacting violations of institutional protocol. One would thus predict that this "game" strategy on the part of the experimental teacher would tend to reduce stress in the experimental treatment program. This prediction is confirmed both by the experimenter's observations (see page 107 of Chapter IV) and the experimental treatment intern's log entries for that period (see Appendix E, page 189 ff.).

In summary, the major findings, and some of the implications of these, are as follows:

(1) It follows from the assumptions of this study that the experimental treatment as here defined will be characterized by stress focusing upon children's feelings about authority and related experiences. One might predict that other kinds of stress would also emerge over time. Such stress, while frustrating, may be con-

strued as a necessary and desirable concomitant of the experimental treatment. It is difficult to imagine psychological growth, of the sort envisioned here, occurring in the superficially harmonious atmosphere that is so often the ideal of school people. Such an atmosphere may be construed not as resolution, but as failure to confront the difficult obstacles on the road to psychological freedom. The disinclination of a school system to permit such stress is a measure of the extent to which it is party to the repressive tendency of society at large. While methods need to be developed for containing stress within morally acceptable symbolic vehicles, stress itself may be taken as an indication that at least the possibility for growth is still alive. This has implications, beyond the competence of this experimenter to pursue here, for a reappraisal of the comparative merits of the "nice" middle class school and the disorderly slum school.

(2) It seems likely that the freedom-control problem is necessarily preemptive over other problems that might emerge in a classroom application of the experimental treatment. Exploration of the meanings of authority and freedom might be expected to be a high priority item on the tacit agenda of children being invited to sample freely from their preconscious thought system. Thus a fruitful application of the experimental treatment may depend in part on the ability of the teacher to resolve authority problems that exist both in her professional role and in her own mind. There is evidence herein to suggest that a game strategy, whereby institutional authority is removed from the person of the teacher, depersonalized, fully

explicated, and made available within limits to manipulation by the pupils themselves, is a useful approach to resolution of the role conflict. This strategy seems to have brought the stress level in the experimental treatment group within tolerable bounds by providing a "safe" symbolic apparatus for the exploration of the meanings of authority, thereby clearing the way for deeper exploration of this problem as well as for other explorations. A question remains, however, as to whether it is possible for a teacher to resolve this role conflict adequately while employed in an institution which has limited tolerance of the secondary consequences of genuine exploration, such as, perhaps, a high noise level on some occasions.[2]

The problem of the teacher's own state of mind with respect to authority has no easy solution. It is part of the general problem of the psychological health of the teacher. The implications here are not new. Somewhere during the course of teacher-training, if not during prior general education, it would seem necessary that the teacher be engaged in intensive efforts to acquire self-knowledge in depth.[3] It is not clear what form this might take, though some form of therapy as a prerequisite to teaching suggests itself as a possibility.

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[2] It should be pointed out that the school in which this research took place was exceptionally tolerant in this regard, when compared to other schools. Nevertheless, the nature of the institution itself is such that even this school could not be tolerant enough without penalizing other efforts. What is perhaps more important is the conception of protocol which persists in the teaching profession itself even in the face of administrative efforts to the contrary.

[3] See L. S. Kubie, "The Forgotten Man of Education," Harvard Alumni Bulletin, LVI (1954), 349-55.

Conclusions

(1) The major findings of this study have centered on the question of authority as manifested in the freedom-control problem which characterized the experimental treatment program. This problem requires further attention, either in the form of investigation of the problem itself or in the form of anticipation of and planning for the problem in the context of further study of the experimental treatment.

(2) Although the hypotheses of the study have not been confirmed, the experimenter thinks that the model from which they were generated has retained its attractiveness as a vehicle of inquiry. The technical data, while not achieving statistical significance, show sufficient support to warrant further study. This is particularly so in light of the fact that the statistical failure can be plausibly accounted for in a number of ways which do not require modification of the model itself. In fact, of the seven possible explanations offered above, three take their rationale from the model. One of these explanations involves a speculative extension of the model (the heuristics of subsumed creativities, page 4) which in itself seems capable of generating fresh inquiry into the nature of the creative process. Finally, the model, aided by extensions derived from the same source as the model itself (page 128 above), has been useful in accounting for the major unpredicted findings of the study--those relating to the freedom-control problem.

(3) Throughout this chapter attention has been called to the central role of the teacher in the conduct of the experimental treatment. And on page 126 it was pointed out that the treatment as conceived in this study may in fact require what would amount to blatant manipulation of teacher personality. While the experimenter continues to see heuristic value in the conceptual model, he thinks that the approach here taken to its application and investigation is seriously in error. The major conclusion he draws from this study is that a method of investigation is required which does not depend directly on the teacher for conduct of the experimental treatment. An alternative approach is generated by the distinction between curriculum research and instruction research.[4] The present study is of the latter sort, in that its independent variable is defined in terms of attributes of the teacher and her behavior and the dependent variable is defined in terms of presumably consequent changes in pupil attributes and behaviors. A curriculum study would approach the problem by asking what attributes of the school system, independent of instruction systems, tend to maximize the probability or frequency of occurrence of pupil behaviors, the solicitation of which was the main concern of the experimental treatment intern in this study. A subsumed intermediate question would be "what attributes of the school system tend to maximize the probability of a teacher soliciting the behaviors in question, regardless of individual teacher personalities."

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[4] This distinction is developed in some detail in John S. Mann, "Functions of Curriculum Research," 1966, mimeo.

Within the context of such an approach independent variables examined might include: the structure of authority within the school; the comparative interest within related institutions (P.T.A., school board, supervisory personnel, community at large) in achievement as opposed to experience or in science as opposed to art; the existence within the school of immediate access from classrooms to outdoor areas, to art or craft shops, to semi-private nooks and crannies--and the rules governing the use of such access; the degree of audial isolation of various facilities; the extent to which textbooks, curriculum "guides," standardized tests, and achievement scores are emphasized at various levels of administrative authority; the extent to which and manner in which the teaching staff participates in the formation of educational policy; dominant staff attitudes toward classroom authority and protocol; the manner in which these attitudes are institutionalized; and the access granted pupils to manipulation of authority and protocol.

Studies of this sort would at first be exploratory and descriptive. They would attempt to describe a diversity of existing situations in the dimensions presented above. Presumably such studies would result in isolation of a group of factors which seem to have the effect of maximizing or minimizing the frequency or probability of the teacher and pupil behaviors in question. Subsequent studies might assay with more rigor the strength of relation between the independent and dependent variables thus identified. Finally, depending upon the nature and strength of the independent variables examined, further studies could converge upon direct examination of the model in question in one of two ways. Either they could utilize existing situations in which, according to the work already done, both the probability of teacher soliciting and the frequency of pupil sampling would be high, and compare pupil performance in such situations to pupil performance in strongly contrasting situations on appropriate measures of creativity; or, if the isolated factors lend themselves to immediate experimental manipulation, the studies could set up experimental and comparison treatment groups in order to examine comparative performance on appropriate measures of creativity.

This approach to the problem is tedious and indirect. Its appropriateness is founded upon two assumptions; first, that the manipulation of teacher personality, even if desirable and ethically tolerable, is far from being a sufficiently fine art to permit either a large-scale investigation or ultimate large-scale adoption by school systems of the propositions generated by the model; and second, that the teacher is enmeshed in a complex crossway of social institutions which, regardless of her personality structure and unless she possesses super-human self-directive power, will determine to a large extent the subtler but nonetheless critical attitudes and behaviors which characterize her professional performance.

The experimenter thinks that this switch in focus from the teacher to the teaching environment would be productive of important research findings. And in spite of the complexity of the variables to be considered in this approach, he believes that over time these findings would yield more readily to incorporation in school planning than would findings which depend upon manipulation of teacher personality. On the assumption that the model employed in this study, while needing extension and perhaps modification, is essentially sound, a switch from an instruction analysis approach to a curriculum analysis approach is indicated for future investigations.

APPENDICES

APPENDIX A - INSTRUMENTS

Protocol for Test of Recall

I am going to show you a big chart with a lot of pictures on it. Each picture shows an object you have probably seen. I will point to each object once and read its name.
(Do this approximately 3 seconds between items. Then turn display away from S.)

Now, how many of the objects do you remember? Tell me all the ones you can remember.
(Tester record all responses, right or wrong.)

[The chart was of white cardboard covered with clear plastic 2' x 3½'. The pictures were ink drawings, simple, clear, and easily identifiable. The name of each object was printed beneath it. The objects were:

clock
bird
flag
car
pencil
hat
television
chair
boots
tree
ball
glass
dog
table
gloves
house
telephone
book
brush
elephant]

1.
2.
3.
4.
5.
6.
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8.
9.
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17.
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19.
20.

Do not write below this line.

ANALOGIES

Tester's Protocol and Response Sheets

I want you to make analogies. Making analogies is if I say "mother and child" you say "cow and calf" or if I say "football and touchdown" you say "baseball and home run" or if I say "bird in the air" you say "fish in the water."

There are other analogies you can make with each of the things I said. What else is like a bird in the air? (pause) Did you think of a mole in the ground, a deer in the forest, a baby in a carriage? Did you think of other analogies? Tell me them.

Do not write below this line.

Let's try a different one. Can you think of analogies for "a lamp on a table"? Tell me the ones you can think of. (Record responses -- time 90 seconds or until 30 seconds have elapsed without response. After each response say "Can you think of another?")

Do not write below this line.

Good. Now let's try another. Can you think of analogies for hammer and nails? (record responses -- time as above)

Do not write below this line.

Okay, now here's a different kind of analogy.

A snake is like a very very big worm. Or, an elephant's nose is like a banana. Can you think of analogies like this? What can you think of that's like a bull's horns? (record responses -- time as above)

Do not write below this line.

What can you think of that's like a duck's feet? (record)

Do not write below this line.

There are other kinds of analogies, too. Being angry is like a volcano is in your head. What's it like when you feel happy? (record)

Do not write below this line.

Observer Instrument

Instructions:

Following are twenty statements about teachers. Read all the statements and become familiar with them before beginning observations.

Each statement is followed by the four words YES, yes, no, and NO. After every statement which you think characterizes the teacher very well circle the word YES. After each statement that characterizes the teacher moderately well circle the word yes. If a statement does not characterize the teacher you are observing, circle no. If a statement seems directly contrary to the practices of the teacher you are observing, circle NO.

Be sure to respond to each statement.

It is suggested that you use the blank space between the statements and the response columns for tally-marks, comments, or other sorts of notes that will facilitate accurate completion of this instrument at the end of the observation period.

Do not show this instrument to the teachers or discuss it with them. Refer them to the project director if they have questions.

Observer Questionnaire - Form A

1. The teacher's main emphasis is upon soliciting expressions of thought from the children.		YES yes	no NO
2. The teacher asks a lot of questions of the sort that don't have fixed answers.		YES yes	no NO
3. The teacher usually spends time in presenting ideas or information to the children after reading to them.		YES yes	no NO
4. The teacher seems to accept children's intuitive judgements.		YES yes	no NO
5. When children want to know if their ideas are right or wrong, the teacher encourages them to develop their own criteria.		YES yes	no NO
6. The teacher's attitude towards the children's thoughts and feelings is always open and accepting.		YES yes	no NO
7. The teacher responds to children's ideas by asking pertinent questions which encourage the children to go on to new ideas.		YES yes	no NO
8. The teacher encourages expression of personal feelings.		YES yes	no NO
9. The teacher tells children why their ideas are wrong.		YES yes	no NO
10. The teacher encourages children to rationally evaluate their own ideas.		YES yes	no NO
11. The teacher seems to have certain ideas or information which she tries to get across to the children.		YES yes	no NO

Observer Questionnaire (continued)

12. The teacher frequently includes in her plans the opportunity for children to express themselves in nonverbal media.		YES yes	no NO
13. When personal feelings run high, the teacher allows these feelings to displace instructional activity.		YES yes	no NO
14. When a teacher reprimands a child for his actions, she follows up this reprimand by helping the child identify the feeling that made him act that way.		YES yes	no NO
15. When children want to know if their ideas are right or wrong, the teacher tells them.		YES yes	no NO
16. When children express ideas, the teacher sometimes asks them to prove or demonstrate that their ideas are right.		YES yes	no NO
17. The teacher values right answers or ideas more than wrong answers or ideas.		YES yes	no NO
18. The teacher tries to logically demonstrate the validity of the ideas she expresses.		YES yes	no NO
19. The teacher tries to bring into the open children's personal feelings and values.		YES yes	no NO
20. The teacher presents interpretations as if they were fact.		YES yes	no NO

APPENDIX B

INTERNS' LOGS FROM TRAINING PHASE OF STUDY

Intern's Log - "Psych" Section

October 14, 1965: Session 1

The children entered the "Little Theater" very orderly and waited for directions from me. They were very disorderly by the end of the period. This behavior must be a reflection of my communication of my expectations to them, or a failure to communicate this. The disorder confused me; I couldn't decide whether to stop it or permit it. As a result, I did a little of each. This indecisive behavior on my part was wrong, and shows an incongruence.

I think that I communicated to the children my interest in them. There was spontaneous discussion at the beginning of the class but it didn't extend into the realm of the childrens' attitudes. It was simply statements about their pets, with little feeling expressed. Ideas were not used as stepping stones to new ideas.

After I told the story of Tico, I lost the childrens' interest. Some of them demonstrated this by leaving the group and exploring the stage. I asked a question, "What would you do with golden wings?" and Diane began to fly off the stage. The others followed her. The problem here is how to relate the story to the childrens' feelings after I read it. They seem to have the idea that after a story is read, the activity is over.

I don't think I accomplished much in relation to my objectives.

The next class, I will allow them to explore the stage first. And after the story I will ask questions that will elicit feelings and imagination.

October 21, 1965: Session 2

Book: Where the Wild Things Are, Maurice Sendak

Activity: Puppets

Today I had the feeling that a lot of feelings were being expressed but I clarified very few of them because so much was happening so quickly that I didn't know where to begin.

There was a lot of running around the room; the children seemed entranced with finding out about the rooms around the stage; and with their physical freedom. But I feel that we aren't getting anywhere with this running around, and that I might better limit them to verbal expression ("You may say anything you want"). Now the limits are not definite; I permit running around, but restrict it at times.

They seemed to like the story and commented spontaneously throughout. Ricky referred to one monster as his Grandfather. Eric called the boy his brother.

I related the story to the children by asking them if they ever were bad at home, and what happens then. I introduced the puppets (members of a family), and they all wanted a chance to use them. I felt that it was more productive if I interacted with one puppet and another child with another. The first episode when Eric was the boy, and I the father went quite far. The other children gave suggestions about how Eric could get out of the situation he got himself into. But after this, I allowed four of the children to use the puppets on the stage and they ended up just running around. Then I used the puppets with several other children: Pam and Karin. It is difficult to relate to more than one child at a time, and to pursue a child's ideas because the others become disinterested.

I don't feel that I know the children very well. And they don't seem to know me well either.

Next week, I must set some limits; begin evaluating with the children what they have done, and what they might do; and perhaps discuss sibling rivalry.

October 28, 1965: Session 3

Book: Dumb Stupid David, Dorothy Aldis

Activity: Felt board figures; mother, father, brother, sister, baby.

I felt that I didn't get any closer to my objectives this week. There was too much confusion in the classroom as a result of my failure to control the children's behavior.

I did find out that the children do not see the class as a "free play" period. They see the teacher as playing a definite role. I used four pictures of school activities and then asked the children to check the picture that was most like our class.

There were many comments about the story that I didn't pursue, which I might do next time I read to them. Also, I could have had the children make up endings rather than read the end which I did not care for.

The children like the humor and catchy words that they can imitate in a book.

The confusion began when I wanted the children to talk about the felt board figures. Some were interested, but others wanted to "watch colored T.V." and they made a lot of noise doing it. I should have insisted that they be quiet so we could hear each other. The children who were interested in the felt board activity were impatient to take one of the figures. They didn't have much opportunity to express their feelings because the period ended. Diane really wanted to talk about her family. And Tommy identified with the older brother.

For next week, I must decide what I will permit, and what they may not do in class. I may plan for two activities so the children can split up as they spontaneously seem to do. Also I think I have been planning activities which are too advanced to start with. I must go back to something easier until I learn the needs of the group.

November 11, 1965: Session 4

Book: Secret Garden, Burgess

Activity: Drawings

I felt that we got a lot of expression of feeling today, and since my objective was to clarify the meaning of feeling, where feelings come from, and that there is a reason for feeling the way you do, I accomplished my objective.

The objective was accomplished through group interaction. I came to know the group much better today, and discovered how important my role is. I have to say the right things at the right time in order to move the group along. I discovered that Steven is a dominant force in the group, carrying a lot of power. He affects Diane and Tom especially.

In the middle of our discussion of feeling, Steven said to Diane, "Diane always does the wrong thing." Other boys supported Steven against Diane. I said, "How do you think Diane feels about this?" Diane said, "I feel mad; I'm going to punch you in the nose." Steven said, "You can't do that. . ." Diane continued to express her anger.

At this point I gave out paper to the children and asked them to draw how they feel and where their feeling came from. I tried to emphasize the seriousness of a feeling by saying "You'll have to think about this; when you're ready for paper, I'll give you some."

During the time they were drawing, there was a lot of discussion among them, especially among Diane, Eric and Steven. Diane was really angry with Steven and expressing it in her drawing, and verbally. She finished drawing Steven (throwing him over her shoulder) and drew the same picture on the other side except it was Eric she was throwing over her shoulder.

The children brought their pictures to me to tell what they drew. There was repetition of two themes--punching in the nose, and taking a book away. There were drawings of friends, family and classmates. Steven drew something entirely different than his involvement with Diane, which leads me to believe he just likes to tease her.

Karin seems to support Diane; she follows her around. Pam needs adult approval for what she does. Emily is independent.

After the drawings, I brought the group together and began to introduce the Secret Garden. I told them about the two characters in the book. I was going to follow by reading a selection and having the children identify the feeling that was expressed. However, at this time Diane finished her drawing, and interrupted. She began making motions of fighting, imagining that Steven was in front of her. I should have said something to her to bring her feelings out, but I didn't. She decided to run away on her horse. She went to the back of the room and quietly pranced around.

I started losing the children who decided that they wanted to be horses too (Diane had come to where we were sitting at this point). But I felt that this was not right because they were not expressing anything but restlessness. I offered a book to Steven to look at. And I returned to the others. I asked them "Are you interested in this?" They said, "Yes." But I felt as if they were just responding automatically. I said, "How do you feel about the book?" Eric said, "I feel sad because of the crippled boy." At this point I really felt ridiculous about the whole thing so we stopped.

At the end I allowed the children to run around the room as horses. Then they lined up to go back to the classroom. The atmosphere always follows the same pattern. It is a build-up to a high pitch where the group falls apart, and just runs around. This ought to be controlled by me.

This class was successful in part, because of the interaction between Diane and Steven and their opportunity to express their feelings. But there was no literature involved. I must think of a better way to bring literature into the class; and I need to be alert to say the right things at the right times.

Comments: Tom wants Andy to be his friend. There is a beginning of a feeling about the difference between boys and girls.

November 18, 1965: Session 5

Book: Johnny Crow's Garden

This week the children were generally restless again, and could not sit in chairs longer than two minutes. They moved to the floor to listen to the story. The children still seem to be looking for limits from me, and are not sure what they may and may not do. This caused a lot of moving around until I began the story, and then there was still a lot of interaction.

They enjoyed repeating the phrases after me, and guessing what was going to rhyme with the animals. Diane liked this; she sat beside me, and said several times that she was not interested, but she couldn't bring herself to leave the group.

We had to change rooms in the middle of the story . . . we went to the kindergarten room, and of course this intrigued the children. They immediately began looking around the room. The girls wanted to set up the little house, but I asked them not to touch the things. This may have been a mistake because it would have been an opportunity for role play.

I sat down and had time to converse with children who came to me with comments: Ricky, Karin, Emily, and Pam.

After five minutes, some of the children wanted to hear the rest of the story. I read it.

Before we left, I asked the children to help me plan for the next class. Steve immediately decided they should have a play, and the others seemed to like the idea. I did not ask what else we could do . . . instead I went along with the idea of a play. They immediately began planning a play--cowboys, Indians, pilgrims, turkeys.

I asked them several questions: do you think the people watching will know what is happening? They suggested that we have an introducer. Steve, Ricky and Tom all wanted to do the introducing. Emily suggested we have three parts to the play so the three boys could all be introducers. Mike suggested that Andy be the introducer, but Andy said he was not going to be in the play because he did not like to act things out in front of people. I said that would be all right.

I also asked, "Do you think everyone should be on the stage at once?" They said "No," there would be too much confusion. Thus, we ended the class.

I learned more about some of the children:

- Diane still uses her horse as a mechanism to leave the group, and to bother Steven. She stayed away from the group while we planned, and Karin stayed with her.

- Steve sees himself as a leader of the group, and thinks he can control the other children. Diane won't let him control her.
- Andy is shy, but has expressed himself in a variety of ways; today he wanted to be the teacher.
- Pam has trouble getting interested in anything; she tries to be sweet and adult-like.
- Emily is very imaginative and can think of a variety of ways to solve a problem.

This week I felt as if there were good reasons to conduct a class like this. Those who are interested can participate; the others can find something else to do. However, those that leave the group should not be the same children every time; I must try to bring them into the group by tapping their interests.

I think I will let the children go ahead with the play about Thanksgiving; and have them evaluate it afterwards. But they need to develop a clearer idea about the play before they get on stage-- I hope I can help them realize this. I may take pictures of Indians, pilgrims, etc. and let them build a story around them.

Next time we plan a session, I must push them for alternative ideas; things are happening too fast, and the children are not involved with the class.

November 22, 1965: Session 6 (Eric absent)

There was a lot happening this week; the children were confronted with a feeling of real frustration at not being able to put on a play without planning. I did not make them face their failure and look at it; instead I "let them off the hook." This is where I failed to see my role as an adult. They wanted to repress this experience and I permitted it.

After their first attempt to put on a play (which consisted of children running around the stage, all making attempts to get the play going, but with no organization) I called them together to discuss it. However, many of the children did not come to discuss, and I permitted them to continue making noise on the stage. Emily gave some very good ideas about what to do but very few of the children were listening. They decided to try again. . . with the same confusion resulting.

Many children just gave up after this. I felt that I did not know how to control the group so that they would be as productive as possible.

The children did not like all the noise, but could do nothing to stop it. There was no consistent leader within the group; it alternated among Emily, Steven, and Ricky. Perhaps a leader would emerge if they had more time to plan as a group.

During the time the children were on the stage trying to get going, they kept turning to me, expecting me to make the decisions about who was to do what. I tried to support them in their feelings but asked them to make their own decisions. However, I did not support the group's feeling of frustration or push to resolve it.

Karin, Emily, Steven, Ricky, Diane, Lisa, really wanted to have a play. Perhaps I could divide the group into two--those who want to work on a play; and those who want to do something else.

I feel that I ought to set several limits for the group:

1. no fooling around
2. importance of listening

initiation--involved--self-directive--productive.

December 2: Session 7 (Diane absent)

Today we began by sitting in small chairs which the children found around the stage, and I suggested they bring down to sit on. I had to use a lot of my authority today, insisting that the children stay together and discuss what happened last time we met, what their feelings were about it, and their plans for the future.

They remembered well what happened last week and were able and willing to discuss their feelings: "too noisy," "wild," "everyone doing different things." They felt sad and mad, all except Mike who said he felt happy.

They said they would like to try it again. Ricky suggested that we do something about Christmas; Emily agreed because Thanksgiving was over, she said, and Christmas was coming.

I asked for alternate ideas; and some of the responses were Captain Hook, Alice in Wonderland, but all the children did not know these stories, and most of the children were determined to have a Christmas theme. They all started shouting what they wanted to be, and Ricky started telling them if they could be that person or not. Other children suggested that they would need a family as well.

Again I had to use my authority to keep order. The children were not listening to each other; I felt that this was necessary in order to pursue and develop ideas. After the children said who they wanted to be, many left the group from time to time. I called them back.

I wrote down what everyone wanted to be. Next the children discussed how the play was to develop. Lisa, Emily, Karin, Ricky, and Pam all gave many contributions. This is when I should have let the others leave and get interested in another activity, but I had no other activities!

It was very difficult for some of the children to wait before acting. They couldn't discipline themselves to plan, and were not interested in it. However, they all wanted to have a part in the play.

We stretched with a break which seemed to help.

There were many constructive ideas about the sequence and set-up of the play. I was surprised at their ability to work out a lot of details.

We decided that next week we would discuss the play a little bit, and then practice. The last week we would use costumes and props.

Following is a list of the cast; and the sequence of the play (I had no influence on these decisions):

Introducer - Emily
Mr. Santa Claus - Ricky
Mrs. Santa Claus - Lisa
Elves - Tim, Eric, Sandra, Andy, Steven
Reindeer - Elizabeth, Emily
Family: baby - Karin
        Father - Tom
Curtain - Mike, Pam

(1) Elves working at the table and cleaning up the house.

(2) Mrs. Claus cooking dinner for Santa.

(3) Santa prepares sleigh; rides to the house.

(4) Family goes to bed: baby in bed playing with toys, father comes in and orders her to go to sleep.

(5) Father goes to sleep.

(6) Santa Claus comes into the house and leaves packages and fills the stockings.

(7) The family wakes up and finds all the packages.

Stage setting: divided into two parts --

Family	Santa Claus House

December 12, 1965: Session 8

Today the children were anxious to continue the play they planned last week. I had decided to have only those who really want to put on a play working on it. The others could have a story. However, all the children wanted to work on the play; but they did not want to do anymore planning. They got up on the stage and began arranging it.

Steven started telling the children where the props should go, and he got the elves working at the table. But the group never got beyond that point.

There was confusion, noise, and no direction for the children. They each had their own ideas about what to do. They could not get organized, and no one child could get control over the others.

I brought them together and we discussed it. I kept throwing out questions until Eric got the idea that there was no one to direct the group, and everyone was doing what he or she wanted to do. Eric decided to be the boss. He wanted them to plan, but Ricky was a disrupting force because he wanted to be the boss. Eric couldn't get the children off the stage to discuss. He was going to tell everyone what to do. Lisa and Karin were trying to help him get the others together so they put the chairs in a circle for the children to sit on. Steven got angry because the chairs were supposed to be on stage for the elves.

Eric had some support from some of the children but none from the others. Perhaps I should have weeded out some of the children at this point? - some of the children seemed to want to just fool around.

I felt at a loss about how to help the children discover a way to work out their problems without sitting still and talking.

There were many feelings expressed by the children. Eric was very angry with the other children. I asked them to mark how they felt on a piece of paper which had a continuum from sad to happy. All the children marked sad or mad except Elizabeth who was happy.

December 16, 1965: Session 9 -- Evaluation

This class period was spent in having the children answer questions which I had made in order to evaluate what happened in this class, and to see if the children came closer to a "free-mindedness" than they had in their usual classroom.

I used a series of questions related to pictures for the children to mark according to how they felt.

Following are the questions (pictures correspond here, also):

(1) Which picture shows what you thought we were going to do when we met for the first time?

(2) Which picture shows what you usually did?

(3) Which picture shows what you usually wanted to do?

(4) In which classroom do you have better ideas?

(5) In which classroom can you tell about your ideas?

(6) Who's the boss in each classroom? Draw a teacher standing in front of the chairs if you think the teacher is the boss; draw a child sitting in a chair if you think the child is the boss; don't draw anyone if there is no boss.

(7) In which classroom would you rather show how you feel about something or someone?

(8) Show how you feel about being in your regular classroom (mark anywhere on the continuum).

(9) Show how you feel about this class.

(10) Show how you feel about me and what I've done.

(11) Show how you would feel if you always had a class like this in school.

Question	No. Responses for each possible answer Possible answers: 1	2	3	4	Total No.
(1) Which picture shows what you thought we were going to do when we met for the first time?	0	5	7	1	13
(2) Which picture shows what you usually did?	2	4	1	6	13
(3) Which picture shows what you usually wanted to do?	4	6	3	0	13

Questionnaire continued

Question	No. Responses for each possible answer Possible answers:				
	1	2	3	4	Total No.
	Possible answers:				
	1	2	both		Total No.
(4) In which classroom do you have better ideas?	11	2			13
(5) In which classroom can you tell about your ideas	3	5	5		13
	Possible answers: Classroom 1:		Classroom 2:		Total No.
(6) Who's the boss in each classroom?	teacher child no one	4 1 8	teacher child no one teacher & child	8 2 2 1	13
	Possible answers:				Total No.
(7) In which classroom would you rather show how you feel about something? (7) or someone?	1 8	2 6			14
# 8-11	Possible answers: Good	Bad	Indifferent		Total No.
(8) Show how you feel about being in your regular classroom.	8	2	4		14
(9) Show how you feel about this class.	8	1	4		13
(10) Show how you feel about me and what I've done.	12	0	1		13
(11) Show how you would feel if you always had a class like this in school.	9	2	2		13

Results:

The previous page shows the number of responses for each possible answer. Following are the most common responses, and the ratio of those who gave that response to the number of responses:

Question 1: 7:13 children thought we were going to discuss in our class.

Question 2: 6:13 children usually interacted directly with me during class.

Question 3: 6:13 children usually wanted to look at books in our class.

Question 4: 11:13 children felt they had better ideas in our class than in their regular class.

Question 5: 5:13 children felt they could tell about their ideas in both classes; and 5:13 thought they could tell about them in their regular class.

Question 6: 8:13 children thought that there was no boss in our class; and 8:13 thought that the boss was their teacher in their regular class.

Question 7: 8:12 children felt that they would rather show how they felt in our class.

Questions 8 & 9: 8:13 children felt good about being in both classrooms.

Question 10: 12:13 children felt good about what I had done.

Question 11: 9:13 children felt good about the idea of always having a class like ours in school.

Generalizations:

(1) Most of the children did not do what they expected to be doing in our class; nor did they do what they wanted to do.

(2) Most of the children actually wanted to read books.

(3) Very few children saw the class, or wanted the class, to be chaotic.

(4) Most of the children felt that they had better ideas in my class, but they felt that they could express their ideas just as well in their regular class.

(5) Most of the children saw a difference in the role that the teacher played in the two classes: I was not thought of as the boss; but their regular teacher was.

(6) Most of the children felt good about both classes.

Implications:

(1) The children either did not answer the questions in the way they really felt; or else my interpretation of what was going on in class was quite different from theirs. Or a third possibility was that they interpreted the pictures differently than I.

I would have answered the second question by marking the first picture--that of chaos! Somehow, I did not communicate or "feel with" the children during class.

(2) If the children really wanted to look at, read books in our class, they never expressed the desire, even when they were asked what they wanted to do.

(3) For every response that compared the two classrooms, there was a slight difference in favor of our class except to question 5. Perhaps I made some progress after all!

Conclusions in Relation to Teaching Sessions:

After re-reading Kubie, and reading my Log I feel that I did not do enough to move the children toward developing a "freemindedness" and a "self-knowledge." The childrens' behavior followed a similar pattern each week: disinterest in discussion of the literature, rejection of any attempts to become organized, and expression of dissociated aggressive behavior. They sometimes seemed to be expressing inner conflicts, but they themselves were not aware of it. They were not learning to control or direct their inner processes.

I feel that this repetitive behavior on the part of the children was demonstrating a phenomena that Kubie describes in his book, Neurotic Distortion of the Creative Process (p. 131):

> Precisely here is where the educational system, the neurotic process, and the emotional demands of the creative impulse come into a three-way collision. For reasons which I have tried to indicate, the imperious creative impulse frequently arises in a young man or woman who is rebelling against all external authority, yet who has unwittingly remained enslaved to his own unconscious. He brooks no external interference: but also will not welcome any well-meant efforts on the part of

> others to help him to become free from the internal slave-driver about whose existence he is both unconscious and paradoxically defensive. Therefore he rejects not only formal educational responsibility but also any depths of self-understanding.

This pattern of behavior expressed by the children was a result of my failure to clarify for them what the class was intended to do for them. I did not play an active enough role in bringing their feelings from an unconscious expression to conscious awareness. If I had done this, I could have moved further toward bringing about a preconscious thought process.

I think I could have done this in two ways:

(1) Control--the physical permissiveness which I allowed was not beneficial to my method; it consisted of random reactions on the part of the children. I expected them to demonstrate an independent responsibility before they had a chance to learn it. I should have told them in the beginning what it was we were going to do so they could have had an idea about how to react. This way their reactions would have been more meaningful.

(2) Activities--at first, I planned activities that were not appropriate to the needs of the group; and then I stopped planning activities and left everything up to the children.

I should have started out by planning general activities which would appeal to, and stimulate the group; and after I started to know the children, I should have planned activities which would be helpful to particular individuals. This would include using spontaneous group interaction, and a choice of activities.

Neither of these points limit our proposed method of teaching; they simply help to get it going on the right track.

A Second Look: Statement of Psychological Method and Its Application

I feel now that I can attempt to give a statement about our method of teaching, and how it might be applied.

Statement of Purpose:

My purpose in teaching is to use literature to help the child develop self-knowledge, thus moving toward intellectual and emotional maturity. This can be done by giving the child insight into, and freedom from, neurotic deviations, i.e. repetitive and automatic responses through the unconscious without realization of why and what.

I want to prevent both neurotic submissiveness and unconscious rebellion. Through literature I hope to enable the child to see possibilities for change by reacting to past experiences and seeing new relationships among them, thus freeing the creative potential of the preconscious.

I want each child to have the opportunity to develop an independent responsibility to others and to himself. He can do this by learning how he can use that which is inside himself to bring about creative thought and expression; and by discovering the common human condition that he shares with others.

Application:

The problem which lies ahead is to bring this theoretical purpose to practical significance. Following are some teacher behaviors which I see as consistent with my purpose and necessary to accomplish it.

(1) The teacher does not have predetermined expectations for pupil responses, but encourages expression of new ideas.

(2) The teacher encourages the children to share their experiences, memories, plans, and ideas through the media of literature; and to reshuffle these experiences to find new meanings.

   a. use of words found in literature to discuss emotive connotations.

   b. respect for each other's ideas and discovery of common feelings.

(3) The teacher uses the classroom situations as an opportunity for children to resolve their conflicts on a conscious level.

   a. the teacher supports the child, both verbally and unconditionally, when he attempts to carry through a problem.

   b. the teacher is aware of the interaction of the group.

(4) The teacher encourages children to study and learn from their own errors.

(5) The teacher helps the children to see the relationship between inner and outer experiences.

(6) The teacher knows her children well, and is constantly alert to their individual problems and growth.

(7) The teacher respects the integrity of each child, and tries to eliminate anxious and guilty feelings about expressing feelings and ideas.

(8) The teacher realizes that all children will not be interested in one activity all the same time; and therefore plans for and permits a variety of simultaneous activities.

(9) The teacher knows the characteristics of the age group with which she is working, and plans activities accordingly.

- first graders can sit still for only short periods of time, and need a balance between active, and less active periods of time.

(10) The teacher is alert to and encourages spontaniety in her class.

- she plans activities, but they are flexible.

(11) The teacher helps the children become aware of alternatives from which they can choose.

Intern's Log - "Lit" Section

Objective -- Cultivate an awareness on the part of the child of the structure of literature, i.e., every story has a structure made up of different elements which fit together neatly to form a whole.

Lesson I -- Peter Rabbit

INTRODUCTION: Stories--what can we learn about them?
What is a story?
Where do they come from?
Why do people write them?

TODAY: "Tale of Peter Rabbit" by Beatrix Potter

Why did she write it--to cheer up little boy--5 yrs.--sick--sent in letter--liked it--made a book--other children can enjoy.

STORY

Discussion: Was this a story?
What makes it a story?
Are there some things all stories have?

This story: Who tells it? (narrator)
Who is in it? (characters)
What happens in the story? (plot)

Changes: What would this story be like if --
Farmer McGregor liked rabbits? (tension)
Peter had blueberries and milk instead of going to bed?
Peter hadn't lost his clothes? (moral)

Found some things in this story. Do you think we could find some of these same things in another story?
Next week -- we will try.
Look this week too in stories you read.

October 12, 1965

Lesson I

My group consisted of fourteen first-graders from the middle reading section. After bringing them from their room, I had them sit on the floor and then introduced myself. We talked a little about what we would be doing--i.e. learning about stories--and also about their names and how I might learn them.

Interest ran high in the discussion about what a story was, where it came from, etc. Telling about why "Peter Rabbit" was written seemed to make the discussion more meaningful to them.

The children were quite attentive while listening to the story.

Afterward I introduced the concept of a narrator but time and attention span were both running out and I didn't go farther than this. Next time I'd like to discuss this story again before going on to another. It's one they will probably remember since most of them know it and I feel they can profit from the discussion I had planned for afterward.

All in all, I think some general ideas about stories, writers and motivation for writing were communicated.

Lesson II --What's in a story?

LAST TIME: What a story is -- Where stories come from.

TODAY: What's in a story? Are there things we can find in every story we read? Almost every story? Should we look to see? Why?

Bulletin board--
Stories. Things I think we can find in a story.
You may think of more; some we may not find at all.

Peter Rabbit--
Last time we talked about two things (or elements) that this story has: (1) author (writer); (2) narrator (storyteller).

What else--Who's in story? (characters) Other stories? If you wrote story?

What happens? (plot)
change ending or --Mr. McGregor likes rabbits.

Is there a lesson in it? (moral)
What should Peter do next time? Why? What if Peter had blueberries and milk instead of going to bed?
What if Peter hadn't lost his clothes?

Little Black Sambo--
Are some of these things in this story?
Author -- why written?
Listen for others.

October 19 1965

Lesson II

I don't feel terribly successful about today. The children are still vague on what they should be looking for, and rightly so. I feel they now understand what an author is though, but we also talked about the narrator. I found this quite difficult to explain and differentiate from author. They thought since it was the person who saw and told the story, it must be the author.

I wanted to get into characters and plot today but felt their attention span wasn't able to bear this. After about a fifteen-minute discussion I read them "Little Black Sambo." We talked about its author and why she wrote the story. Again I tried to describe the narrator but I think the distinction was lost on them. Perhaps if I review some discussions of the narrator I will be able to approach it from a different angle.

In sum, the children are now aware that they should be able to find some common elements in the stories we read. Author and narrator are two of these. Perhaps this is enough for only two sessions. I may have been expecting too much from them. Next time I think I'll go on at least to plot--perhaps characters too if I can. None of this is very deep yet, I realize, but an awareness of structure must certainly come before its analysis.

Lesson III - Characters

Element of story -- author manipulates -- fit together

LAST TIME: Story about who?
First story was about who?
Other stories--who are they about?
If you were to tell a story, what or who would you tell about?
The people, animals -- or anyone in the story -- is called a character.

Let's look at the characters in our two stories:

A. Peter Rabbit
   Who did you like best? Why?
   Did you like Mr. McGregor?
   Did you like Peter's mother?
   If you could change anyone, who would it be? How would you change him? -- effect on story? (author manipulation--interaction of characters--opposing forces)

B. Black Sambo
   Same type of discussion.

If we wrote a story could we make our characters any way we liked?
Could we fit them together so the story would be a good one?
Let's try it--

Decide what story is to be about. Who should we have in it? What happens? (Have children dictate story--write it down.)

Lesson III -- Characters

We had an exceptionally good discussion today about characters. Although we didn't write our own story, we did talk about the stories we'd read and the characters in them. They realized the distinction between objects and characters--we talked about the butter in "Little Black Sambo" and why it wasn't a character--how we could make it one, etc. (The "Little Blue and Little Yellow" story would illustrate this point very well, I think.)

How one character change could completely change the story was brought out when we changed Mr. McGregor into a nice farmer. We talked about what the story would be like if we did this.

The author's prerogative to design characters any way he chooses was also brought in.

I introduced "title" as another element of every story and we discussed this briefly.

We only had ten minutes left but rather than compose a story I decided to read Laura Bannon's "The Other Side of the World" so we could talk next time about point of view.

Although we ran about five minutes overtime, it was a good session.

Lesson IV -- Point of View

People look at things in different ways--example, watching T. V. late.
Happens in a story too--sometimes see what author thinks,
sometimes see what a character thinks,
(chart below)
sometimes see what narrator sees

In Peter Rabbit was farmer nice? Who thinks so?
How would Mr. McGregor tell the story of Peter Rabbit?

Important--to see who's eyes the story is looking through.
Choices: author, narrator, characters

"Other Side of World" -- Who's eyes?

p. 1 - Narrator
p. 2 - Mother's (character)
p. 38 - Narrator
p. 39 - Mother
p. 48 - Narrator

Narrator sees both sides of world -- tells about America and Japan.

Lets characters tell how they feel sometimes -- boys' mothers.
Most of story -- eyes of narrator -- sees everything.

How would Jun tell this story? Could he see America like the narrator can?

Who can see most? (chart)

Author

may let narrator tell

↓

may let character tell

Character sees least--
What does Mr. McGregor see--doesn't see rabbits' blueberries and milk--narrator does.

Lesson IV -- Point of View

Our discussion today was less of one than usual in that most of it was my giving and their receiving ideas. Again, it's difficult to tell how much they absorbed but I found the graphic representation of author, narrator and characters to be very helpful.

They did contribute to the discussion of point of view, when related to their own experiences and to the Tale of Peter Rabbit.

It took them awhile to get interested in "Little Blue & Little Yellow" but they were fascinated by it, once they did. They did a fine job of anticipating future events in the story and enjoyed it immensely. We talked a minute about the colors as characters and for next week I asked them to think about why they were characters--what about them made them characters.

November 9, 1965

Lesson V -- Constructing a Story

Materials -- Picture cut into five pieces, each with some character or interesting object. As a whole it tells the story of the jolly green giant loading trucks with vegetables and sending them on to market.

Objectives--

Illustrate: limited view of character
different points of view
interrelatedness of parts and parts to whole

I'm leaving this lesson relatively unstructured for various reasons. I want to see what the kids will come up with on their own. And I'd like to see how fruitful such a lesson can be in unifying the pointing out some of what has gone before and how meaningful it has been for them.

Activity: Pass out parts of story. Ask children to tell a story about their "picture."
Put the whole picture together and have the class tell its story.
Contrast this with the stories of the separate pieces.

Lesson V -- Constructing a Story

It was fun for the kids to tell their own stories today and they did quite well. One thing I hadn't anticipated was that they all knew the jolly green giant story. Even having only a piece, they could reconstruct the whole. Because of this, the story didn't change much when we put the pieces together. That is, it really didn't give them any new insights to see it all put together, since they knew it already.

A picture they were unfamiliar with may have illustrated better the incompleteness of a character's viewpoint as well as the relation of part to whole better than this one did.

Lesson VI -- Message

Stories not always written just for fun.
Author sometimes has something to tell you.
A story is a good way to say it.
How about Peter Rabbit--do you think there was a message in it?
Was the author trying to tell us something? What?

Clues: Peter disobeys, then loses new clothes, has narrow escape, gets wet in sprinkler, goes to bed sick.

Message: Things go wrong when you do what you're not supposed to.

Little Black Sambo

Message: Being a bully doesn't get you anywhere.

Tigers ⟶ LBS (Little Black Sambo
Tigers ⟶ themselves didn't fight--comes out ahead)

Read: The Three Bears -- look for message

November 16, 1965

Lesson VI -- Message

We began our day touay by telling about things we'd like other people to share with us. This was fortuitous and unplanned on my part but since many of the children had things to tell, we proceeded from here. I then suggested that perhaps an author might have something to tell and put it into a story. I explained how my Dad used to tell me stories about myself in order to tell me something, e.g. it's time to go to bed. I suggested that perhaps some of the stories we'd read had a message like this in them.

Black Sambo was retold by one of the children. He stressed the fight of the tigers and their end, which fit in nicely. I brought out the "message" in this story and we talked about it for a few minutes. I suggested thinking about Peter Rabbit, hoping they'd gotten the idea. Their comments were quite good--Peter was naughty, had to go to bed, other rabbits were good and got to stay up and have blackberries and milk. But try as I would, I couldn't get them to put this in terms of boys and girls and the benefits of obedience. I do feel though that although they weren't able to verbalize this, that they did have some grasp of the moral involved. The comments made about the story were certainly relevant to its message although they couldn't tell it in so many words.

Next I introduced the story of The Three Bears and reminded them to look for its message--it does have one. We read the story and I dismissed them asking them to think and talk about the message in this story and promising them that we'd talk about it next week.

An encouraging day.

Lesson VII -- Messages

Distinguish moral as a certain type of message from the author.

The Three Bears
Message: Don't touch things that don't belong to you without permission. (See if children can arrive at this conclusion inductively.)

Introduce message in Other Side of the World -- People may look different and do things differently but they are really same. Have same feelings about life.

Different from other messages--doesn't tell reader to act in given way. Not telling us to "be good" like: Sambo - bully; Peter Rabbit - obedience; Three Bears - respect for property.

How does each of above tell us to be good?

Other Side of the World -- gives message -- doesn't tell us to "be good."

When message of story tells us how to act -- it is called a moral.

Little Blue and Little Yellow -- a moral? a message?
- clothes don't make the man
- friends affect our behavior--change us.

Tico--

Lesson VII - Message

We talked about the moral in "The Three Bears" and the children decided the author was saying we shouldn't act the way Goldilocks did. She wasn't courteous. We discussed--reviewed--the morals in Peter Rabbit and Little Black Sambo, and I reiterated the definition of a moral: the moral of a story tells us how to act.

Lesson VIII -- Plot

Last Week's story --Tico
  Who can remember what happened?
  What did _________ just tell us?
    Whole story?
    Part of it? What part?

PLOT is what happens in a story.
  Example: story about going fishing--went fishing and caught ten fish; as I was coming back to shore I dropped my bucket and lost all of the fish.

  What didn't I tell you about this story?--
    Where I went--setting
    Who was with me--characters
    What was the Message, if one?

  Short way of telling story--just tell plot. Leave out a lot but it tells what happens in story.

  Let's try it--
    The Three Bears
    Little Blue and Little Yellow
    Little Black Sambo

Lesson VIII -- Plot

An attempt to distinguish plot as an element of the story was made--as opposed to setting, characters, message and other elements of a story. One child retold Tico very well and the others seemed also to remember it as they helped him in spots. We also retold The Three Bears and I made up a plot. I'd planned that we would then embellish this skeleton with other parts of a story to complete it.

By this time, though their attention left something to be desired and the attempt was unsuccessful.

The last few weeks have shown an increasing problem with discipline. I'm not sure where the blame should lie--the content itself, or the fact that I've given them too much freedom from the start. I'd like to think it isn't the latter since it seems if the lesson is interesting enough their attention would be held. I can't help but feel that much of what I'm trying to do is beyond the capacity and experience of a child of this age.

Lesson IX -- Story Endings

Sometimes before a story really ends, we can imagine what the ending will be like--Tico--we all knew friends would take him back before we actually read it.

Sometimes a story might end in two or three ways--the author chooses one, you might think of two or three more.

Endings can be happy, sad or funny. What kind of endings do you like? Why?

Story--"Who Took the Farmer's Hat?"
While I read it think of how you would like this story to end.
(Read story up to a point. Children make up endings--draw a picture of it--tell it to class.)

Lesson IX -- Completing a Story

I think this type of activity has much potential, although I'm not at all sure I carried it out in the best way possible.

The discussion wasn't good at all--I couldn't seem to glean any creative ideas from them as far as endings to stories read previously go. I think they are tired of re-discussing these same stories.

The activity itself went well--interest in the story ran high and the drawings showed that most of the children understood the problem and did create endings for the story. A few of the children showed their pictures and told how they would end the story.

APPENDIX C

INTERNS' EVALUATIONS OF TRAINING PROGRAMS

"Psych" Section - Intern 1*

I felt that the first part of the training phase was successful and beneficial in developing a theoretical basis for our method of teaching. However, I felt it was not successful in developing practical applications for teaching.

I realized and appreciated the fact that Mr. Mann could not tell us what this method was all about until we read about it; but that through the reading and a weekly discussion we could gradually gain a feeling for it.

The reading material was helpful, and adequate for a theoretical understanding of forces influencing creativity. The weekly discussions were helpful in clarifying and expressing my thoughts and reactions to the reading.

However, we had no practical preparation for the classroom teaching phase. I feel that two additional parts should have been added to the program: (1) observation of several first-grade classrooms which would range from a structured and rigid method of learning to a flexible and creative method of learning. A discussion about the teacher behavior, and child behaviors observed would be helpful; (2) A consultant who could have talked with us about our proposed method of teaching, giving us an idea about what behaviors we might expect from the children and what we might do to elicit the desired behaviors.

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*This is the intern who was selected to participate in the experimental phase of the study.

I felt that the second part, or teaching phase, of our training program was characterized throughout by a vagueness concerning evidence of our success in carrying out our objectives; and by a series of unsuccessful experiences for both myself and the children with whom I was working.

I felt the necessity of a model from which I could get an idea about what child behaviors were indicative of a free-mindedness, or growth toward maturity. I was at a loss as to what behaviors to reinforce or "call up" from the children. And I was not certain about what behavior in myself was bringing about the responses in the children. Throughout the semester, I was convinced that I believed in our theory, and was willing to do anything to bring it about. . . but I never felt as if I accomplished much.

This feeling indicates a need for more evaluation and more planning after each week's teaching period. I think it would have been beneficial to have a tape recorder, or video-tape for each teaching session; but more important, to have a chance to talk about the experience directly afterwards.

Concerning our weekly discussions, I feel that they should have been more meaningful. As it was, we were dealing with something unknown, and the answers became more vague as we grew apart through different classroom experiences. Mr. Mann had a definite idea about the theory of our approach, but he did not offer any definite ideas about applying it to the classroom. It seemed that although we felt free to talk about our problems, no one gave constructive suggestions about how to solve them.

I think some of this vagueness would have been eliminated if we had been able to observe each other in the classroom situation, or to have video-tapes of each class. This would have made it possible to give each other suggestions for improvement, and to ask each other questions about what we did, and why. At this point, the theory was not the thing to focus on--the practice of the theory was vital.

The consultant that we talked with during one of our sessions helped me a great deal in clarifying what it was we were trying to do, and how to do it. I would have liked to make this kind of session more regular throughout the semester.

The reading that Mr. Mann recommended to us was helpful in planning and evaluating my class; but it was necessary to read a lot to find a little that applied directly to teaching a first grade.

In short, I was satisfied with the theoretical aspects of the training phase, but would have liked to have more practical suggestions for teaching. I realize that there are not a lot of resources of this type available and that we did not have enough time during the semester to do a lot more. I enjoyed working with the group because of the free atmosphere we were in, which permitted us to explore the literature in this area and experiment with its application in the classroom. I feel that it will be an invaluable experience for me in my future teaching.

And, in spite of my criticisms of the course, it did accomplish what it set out to do . . . to be a training period for planning next semester's teaching.

"Psych" Section - Intern 2

In evaluating the training program, I may exhibit a slight negative bias. This is due to the fact that I was not satisfied with my performance with the children. It is easier to blame the training program than it is myself. First of all, I feel the best part of the training was the atmosphere created between Mr. Mann and the interns. One could always give and receive an honest answer. It seems that it was this sort of atmosphere we wanted to create with the children. The feeling was achieved by asking us what we thought we should do on the basis of our reading and discussion. It was clear the interns had a job to do, and Mr. Mann would accept our opinions and ideas as valuable.

However, this same technique had a serious drawback. We were dealing with the concrete implementation of some very abstract ideas. I never felt sure whether or not I was on the right track. One of the most valuable things was the feedback I received from Mr. Mann when he observed me. As a result of this, I was able to get a little better picture of what we were trying to do. More feedback should come from Mr. Mann as a result of tape-recorded sessions and live observations.

The three interns as a whole, in the training session, didn't interact enough. Each Thursday was like a symposium rather than a discussion. One reason for this is that we weren't all aware of what the others were doing until we met in class. I feel more group planning in the meetings on activities and books would have been helpful. During this Mr. Mann could have offered suggestions, approval, and criticism as to the relevance of the activities to our objectives. It was because of this sense of almost secrecy among the three of us that I felt we were competing against each other. Competition has, of course, good and bad aspects. It keeps you trying, but it keeps you a loner. More cooperation in the planning of the program among the interns would have been very helpful.

Speaking of objectives--someplace in the action of our experiences I lost sight of ours. They were (1) provide an antidote to the situation in which children have been taught not to trust their own intuition and (2) allow children to have a certain freedom of mind. On rereading Kubie, I can now understand better what he is saying, but it is not what I thought he was saying throughout the training phase. Reexamination of Kubie periodically in the light of our experiences would have been helpful.

Besides tape recording the sessions with the children, it would be a good idea to tape record comments the intern would care to make immediately after leaving the children. These accounts may be more colored emotionally than a written log, but they would be a good source to write the log from. Many times by the time I reached home I had no ambition to write, but had a great desire to talk about my experiences. Writing, however, does make you more objective and organizes your thoughts.

Now that I have aired my negative bias, I would like to say that I enjoyed the course very much and believe I have learned something about a valuable approach for working with children. The training did put more and more focus on how to do what we were trying to do as it went on. This is evidenced by the fact that I feel as though this was the beginning of the project and not the end.

"Psych" Section - Intern 3

I must honestly say that I have enjoyed being a part of Mr. Mann's study. I would have liked a little more guidance and help. However, I know that I learn on my own if I am interested and stimulated enough. I took this idea of Mr. Mann's lightly at first, then I began to see myself actually applying his ideas and Mr. Kubie's.

Being able to discuss problems each Thursday was eye-opening for me. I could compare and learn from the others, as well as hear their comments about my experiences. Discussions opened my eyes as to how I might be a potential teacher. Realizing that control, respect, understanding, patience, flexibility, consistency and communication are some of the fundamental practices helped me. Now I have more an idea of what they mean and hold for me in practice. I would have liked to discuss more with the others in this experience to find out what was most valuable to them. Mr. Mann's appraisal of our group would have been nice to know, too. For me, I formed somewhat my own appraisal as I typed out this paper and reviewed my semester's experience.

"Lit" Section - Intern 1*

The following lesson plans and comments represent a summary of the preliminary work done on this project. During this time objectives were being worked out, literary principles and teaching techniques were being sought. This planning stage was valuable in giving form and direction to overall plans for the project. What is here represented is but a small part of that planning procedure. None of the lesson plans represent a finished product of an ideal plan for this project. They do represent trials--tests of technique and ideas, some of which will be incorporated into the teaching sessions in the coming semester.

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*This is the intern who was selected to participate in the experimental phase of the study.

In looking back on this work, I would make these general criticisms and suggestions:

(1) These lessons were too concentrated and the time lapse between them was too long. These considerations could not be otherwise, but it is well to remember them in appraising the work done.

(2) The general emphasis throughout the nine sessions was on specific elements of the structure of the short story. I think it would have been wiser to deal more with the general principles of literature outlined previously. A general understanding of these would make the study of specific structures more meaningful.

(3) Beginning the work with a problem situation more directly relevant to the childrens' interests may have stimulated more of a desire to learn about literature--as opposed to the desire to please the teacher, which seems to come naturally for the majority of first graders.

(4) A wider variation of activities would have been another desirable change.

(5) Some of the concepts may have been presented in terms which prevented their comprehension by children of this level, e.g. distinction between narrator and author's point of view.

In viewing these criticisms, however, it is well to keep in mind the purpose of these sessions. Experimenting with topics for discussion, ways of approaching problems, and choices concerning what problems to deal with were the main objectives here. And the work done proved to be very fruitful in these areas. The fact that after having done this work, the above criticisms could be made is important. They could not have been made before actually trying out some of these ideas in the classroom; and the fact that they have been made will expedite changes and improvements for the coming semester which otherwise might have gone unnoticed and unremedied.

"Lit" Section - Intern 2

A review of this semester's experiences results in mixed emotions. There were many valuable things to be gained by my experiences, all influenced by events in the classroom. A mistake on my part was not to continually look at my log and draw from past experiences. Each week I tried to start something new in hopes of obtaining better results. However, if I had referred to the log, I would have been able to use the suggestions written the week before, and see my attitude and how it was influencing the students. Another result of not looking at the log was that I lost sight of the original objective, and found myself trying to plan activities without a real conception of what I was trying to achieve. I think this affected my attitude which was then passed on to the children and exhibited in their lack of interest in what I was doing. Here it was my responsibility to make the work interesting and make them feel that this information was worth learning. I have learned too that I must demand the attention of the kids but only if I fulfill my share of the responsibility.

An evaluation of the training program is also colored by my classroom experience. One question is whether it would have been desirable to have more guidance and concrete suggestions for our class work. Before the beginning of the training sessions, I was under the impression that we would be told what we had to do--we weren't--but I am beginning to realize that the amount of freedom we had was beneficial because I think we learned more by making our own decisions and mistakes. If we had been told what to do we would probably have learned nothing. In this situation we created our own problems and had to seek our own solutions, and this was a very valuable experience. One need I felt in the training program was for more discussion and materials on the basic principles being taught. I felt that I was unprepared to discuss these things with the children, since I knew so little about them myself. Another problem was the lack of feedback in our work. Earlier observation, as discussed in class would probably take care of this, but at several times during the semester when I lost my direction, an outside opinion would have been helpful. My main feeling at the end of the training session is that I have done little in accomplishing the goals set out for the project at the beginning of the term. However I do feel that I have gained some very valuable opportunity that I could not have gained in a normal classroom situation, and I thank you very much for giving me this opportunity.

"Lit" Section - Intern 3

I see two revisions that would have helped the training phase. One would be more observations, at regularly scheduled intervals. Thus we would have had a better chance to revise and rechannel our efforts earlier. The other would be more emphasis on children's literature itself. Perhaps a guest who knew more about children's books could have given us some annotations on the lists we received. I realize that this will be done for next semester but it would have helped me earlier this semester. Also tape recordings probably would have helped for better analysis of the sessions.

The study itself seems to be limited by the age level of the children. Their age seems to limit the attention span and thus, the amount of material that can be covered. The age level also limits the method of presentation. They must listen to it being read to them; they cannot read it themselves. Studies on listening indicate that critical consideration of materials is difficult when the only presentation is through the auditory channel. (Witty and Sizemore, "Studies in Listening," NCTE Reprint, 1959) It appears that over a longer period of time and with use of visual, in addition to auditory, media these limitations can be overcome. Also, given the age group, studies show that listening is more effective than reading for gaining knowledge. This factor indicates the value of auditory presentation to first-graders. These factors may not have a definite effect upon the results of this study, but they should be considered in the methods used for presentation of children's literature.

APPENDIX D

CHILDREN'S BOOKS USED IN STUDY

Bannerman, Helen. *Little Black Sambo*. Philadelphia: Lippincott, 1923.

Bannon, Laura. *The Other Side of the World*. Massachusetts: Houghton, 196

Brown, Margaret Wise. "Nibble, Nibble," *Poems for Children*. New York: Scott, 1959.

Fatio, Louise. *The Happy Lion*. New York: McGraw-Hill, 1954.

______. *The Happy Lion in Africa*. New York: Whittlesey, n. d.

Flack, Marjorie. *Walter the Lazy Mouse*. New York: Doubleday, 1965.

Freeman, Donald. *Norman the Doorman*. New York: Viking Press, 1959.

Gay, Zhena. *I'm Tired of Lions*. New York: Viking Press, 1961.

Iwamatsu, Jun. *Crow Boy*. New York: Viking Press, 1955.

Jaques, Florence P. "A Goblinade," *The Giant Golden Book of Elves and Fairies*. New York: Simon & Schuster, 1951.

Lemp, Louise. *The Potter and the Little Greek Maid*. New York: Viking Press, 1958.

Lionni, Leo. *Little Blue and Little Yellow*. New York: Ivan Obdensky, 195

______. *Tico*. New York: Pantheon Press, 1964.

Milne, A. A. *Winnie-The-Pooh*. Dutton, 1961 (The Pooh Library).

Minarik, Else. *No Fighting, No Biting*. New York: Harper, 1959.

Nodset, Joan L. *Who Took the Farmer's Hat?* New York: Harper, 1963.

Potter, Beatrix. *The Tale of Peter Rabbit*. Warne: n. d., n. p.

Proudfit, Mrs. Isabel. *The Ugly Duckling*. New York: Viking Press, 1939.

Sendak, Maurice. *Where the Wild Things Are*. New York: Harper, 1963.

Seuss, Dr. *Horton Hears a Who*. New York: Random House, 1954.

______. *On Beyond Zebra*. New York: Random House, 1955.

(Traditional). *The Three Bears*. New York: Golden Books, 1958.

Udry, Janice May. *A Tree is Nice*. New York: Harper, 1956.

APPENDIX E

INTERNS' LOGS FROM EXPERIMENTAL PHASE OF STUDY

Intern's Log - Experimental Treatment

The teacher did not keep a detailed log everyday. She did jot down remarks from time to time.

The sessions followed a pattern in that one type of procedure was used for a series of sessions; and then there was a change to another procedure.

Therefore, the description of procedures will consist of a general description of a procedure used for a certain time period, followed by relevant sections of the log, verbatim. The log is necessary to include in order to communicate the attitude and feelings of the teacher.

The first week the teacher read to the children each day, and she asked questions throughout. The questions were mostly anticipatory: "What do you think will happen?"; "What could he do now?" The children seemed eager to be in the class, and seemed to get the idea that they would be permitted to do what they wanted to do. The teacher's behavior relinquished control; she was not the model teacher the children had anticipated. By the end of the week, the teacher felt that she was facing a problem concerning how to have the children working in groups, yet not disturbing each other.

Following are sections from her logs:

2/7 I read Buzzy Bear Goes South; the children wanted to talk about trips they had taken after listening to the story. They did not discuss running away from home at all.

2/8 Comments about the children: Randy dominates the conversation, but is eager to please me; I can't understand what Mike says when he talks because he has some kind of a speech impediment.

2/9 We finished Norman the Doorman and I asked: "What would you make if you were in a drawing contest?" The children did not respond to the question, but were eager to draw pictures about the book. I permitted this instead. Some of the children did not want to draw, so I let them tell me about their personal experiences and plans (Dean and Ernest).

2/10 I read Little Black Sambo which Randy brought in. After a while I began to feel I was just searching for questions for them to answer, whether they were meaningful or not.

2/11 Many of the children were at the blackboard; this disturbed me because they were bothering the group I was reading with, and because I felt it was not a meaningful activity. It was making too much noise. But perhaps I ought to think of a way that the blackboard could be used in the future.

The second week was characterized by two different procedures. First, the teacher attempted to get the children to discuss the story in terms of how the character felt at various times. The second part of the week was spent in trying to plan with the children an activity in which they would feel more involved.

The teacher still felt that there was a problem in directing the children who were not participating in the literature group, toward activities in which they would be involved, not distracting the others. The teacher also felt that she needed more structure in the form of a plan with continuity from day to day.

2/14 I'm still having trouble getting them to build upon their ideas. I read *Crow Boy* and many of the children chose to listen (Joe, Susan, Mike, Randy, Ernest, Guy, Dean and Dawn). They seemed to like the story; but didn't interpret the idea as it was developed in the story. They thought the teacher was making Crow Boy stay in during recess and talk to him because the boy was bad. Actually, the teacher was trying to befriend the boy. I asked the children how they felt about their teachers; they said they always liked them. Joe called Susan "dumb" and "stupid," but Susan did not want to talk about this. I'd like to pursue this discussion tomorrow. What about the children who are drawing--what else can they do?

2/15 Discussion was centered around the book, *Crow Boy*. I asked the children how they thought the Boy felt. Responses were: sad, unhappy, lonely. I asked "What kind of a feeling is a lonely feeling?" There were many ideas about its meaning in terms of personal experiences--Dorothy: "It's when you go home and your mother is not there." It was difficult to keep the children pursuing this. They seemed to lose interest and couldn't make any generalizations about this feeling. Is this too much to expect? I thought that maybe they did not want to discuss loneliness, but when I asked about this, they said they wanted to talk about it. Randy: "I want to talk about it so I'll know what to do when I get lonely."

2/16 Today there was a build-up in the classroom as if the children were trying me out; there was little interest in the stories.

2/17 Today I suggested that we make our own story about Winnie the Pooh and one of his adventures. They liked the idea, but soon were distracted by playing a version of musical chairs. Randy said that he was listening but he really didn't want to. He wanted to act out the story of Winnie the Pooh that we had read yesterday. I let him do this with some of the others. He really enjoyed it. It was decided to work in groups: one group prepare a play of Winnie; another group write their own version and act it out. I wonder where this play idea will go--they don't want to plan for it; they just want to act, each one in his own way.

2/18 Following is the story written by some of the children:

(Kevin, Dawn, Mary)

Winnie goes to the store for the honey.
He has a guitar playing, smoking a cigar.
He's going to climb the tree for honey now.
Winnie's weapon has smoke.
The bees fight back with their stingers.
The bees hurt Winnie:
    One of the bees stings his nose.
    One of the bees tickles his toes.
    One bee stings his foot, his leg, his arm, his hind end.

The third week consisted of preparing for and carrying out a play. Much of the work was done in groups, and was a process of making and painting the scenery and props. It was characterized by a lot of noise, disorganization and little teacher direction. The teacher felt that there was not enough control by her, resulting in too permissive an atmosphere for some of the children. Two children in particular seemed to be misdirected and in need of limits. The last day was a return to a single group discussion around a story.

2/21 There is some antagonism against Randy because he wants to do everything: paint the box, be Winnie . . . but he is the one who gets all the ideas!

2/22 The actual play was a ruckus with the amount of noise in that small room, but they actually carried the play out to the end. There was little audience interest. I asked them how they liked it, and they said they liked it!

2/23 I have the feeling that everything is disorganized, with no progress being shown. It is difficult to communicate what I expect without dictating. I feel that something must be done to put limits on Guy and Mike. I have brought this problem up to the class and they suggested: put them in the hall, send them to the principal, tell their teacher.

2/24 I read Dragon in the Clockbox. Mike was acting up so I suggested we put him in the clockbox. This seemed to get his attention. The children had many ideas about what was in the box and what could be done with it.

During weeks four through six the teacher continued with more or less the same procedure of reading and discussing stories as was used previously. However there was a gradual build-up of frustration for the teacher. She tried to get the children to react to the literature through discussion, but it seemed as though they were reacting to everything else except the literature. She could not receive what they were communicating to her and the children did not understand what they were supposed to do.

The teacher felt that she was not using proper control; that the children did not respect her for this, and therefore they did not care what they said in discussion. The teacher felt that the children ought to take responsibility for their self-control. There were occasional reactions and feelings expressed but it was difficult for the teacher to know what to do with these feelings. The children seemed unwilling to focus their attention on another child's feelings; they only wanted to express their own feelings.

The teacher began to feel that she was not fulfilling the four conditions of empathy, warmth, unconditional positive regard and congruence. She found it difficult to be firm, yet accepting.

3/3 Mike was interrupting while I was reading. I stopped and said he had to go outside in the hall and sit. He cried and I asked the class if we should give him another change. They said "yes." Randy wants to talk all the time; if I call on him, he rambles on and on.

3/8 I read The Ugly Duckling and we discussed what it was like to be left out. Randy, Dorothy and Mary all told of experiences at school in which they felt left out. I asked the other children why Randy was left out in his specific illustration. There were suggestions.

3/14 Randy was encouraging Mike to do things he wasn't supposed to do today. The children seemed uninterested in the poems that were n the record. Perhaps it was my introduction.

3/16-3/17 The children are eager to dramatize stories, but there is always so much noise and confusion that I hesitate to permit it. However, some of the children dramatized Ladybug, Ladybug and Company for Breakfast and, although it was noisy, they seemed to enjoy it.

The last day of the sixth week, the teacher made a striking change in procedure. She took direct control of the entire class and asked them to make the rules for their class. Then she had each child "tried" to see if he had broken these rules. She continued by establishing a procedure that a child must take if he breaks any of the rules in the future classes. He would have to go to jail.

The teacher was bothered by the fact that she tried to make each child feel guilty in order to force him to take responsibility for his actions. She also felt that she should have been on trial as well!

3/18 The class began to chuckle at first, but the seriousness was communicated by me. I had to put Mike in jail right away. The children seemed to realize that they were guilty of breaking their own rules. But what about me? I feel like I permitted them to break the rules by not throwing them back at the children right away. I hope I can do this in the future. I also hope that later on I can set up certain situations in which there can be a change in the rules, or in which the rules can be discussed again. Following are the rules:

(1) Take turns.
(2) Leave other people and their things alone.
(3) Do what the teacher says.
(4) Don't change seats.
(5) Be quiet when someone is talking.
(6) Don't play with toys we aren't using.
(7) Have something worthwhile to do.
(8) Don't shout.
(9) Don't butt in line.
(10) Be honest.
(11) When in jail, be quiet.

I would like to help the children realize what they can do, now that they know what they cannot do. I want to find out something about Randy and Mike. Why does Mike always crack jokes and do things to make the class laugh; how can I use this "class clown"? Why does Randy always talk out of turn and ramble on and on?

The seventh and eighth weeks were characterized by enforcing the rules established (the rules were posted in the classroom, and a Policeman was chosen each day to enforce them), and leading a discussion of a single book, Walter, The Lazy Mouse. The discussion procedure followed the previous method of permitting comments by the children throughout, but it also included a sort of a game. The teacher would think of several questions centered around the chapter read and the class would try to think of as many different responses as they could. The questions were chosen for interest and in terms of possibilities for many responses. The class was divided into two teams: each team thought of as many different answers as they could. The team with the most points won. The teacher felt that this game would make the children more involved in the class. She felt that it was effective in controlling the group. It forced the children to listen to one another because they could not give the same response twice.

3/21 I was firm from the beginning. While I was talking, Randy and Mike both interrupted me (I was talking about the rules). I sent Randy to jail and Mike out of the room. The children did not want to permit a reminder before the child who breaks the rule is sent to jail. My communication is still poor: are my questions vague?

I read the first chapter of Walter, The Lazy Mouse. I stopped half-way through and asked, "What kind of a mouse was Walter?" They all responded with "lazy." But I asked them to elaborate: to describe how he would be at school and at home if he were lazy. All of the children but Joe gave ideas about what he might do. They seemed to get a feeling for Walter and his character. Randy said: "My mother is lazy . . . no, I didn't mean that." My approach to Randy seemed to work today: if he doesn't know what he is going to say, I simply cut him off. I think I can tell when he really wants to contribute an idea and when he is just rambling. Guy and Ernest showed what a lazy walk was like. Ideas were stepping stones to new ideas today.

3/22 The children were not involved today. At the end of the session, I asked them why. The only answers I could get were that there was too much noise.

3/23 Today I introduced the game. I asked the following questions: In what ways was Walter not like a real mouse?; What could Walter use to make furniture?; What kind of furniture could he make? The jail seems to be an undesirable place to go now. But I don't have to force the children to go. A policeman has the responsibility.

3/28 Mike was sent to jail, but it was still noisy. I asked, "Are you having trouble concentrating?" "Yes" they responded. I asked why . . . they immediately said that Randy was not ignoring Mike and that he ought to be sent outside. Guy took Randy out. Suddenly there seemed to be a huge release and the room was quiet. After class, Randy asked me, "Aren't you going to talk with me like you did Mike?" I smiled. He started to leave, but I called him back, and he said, "They don't like me." I said, "I do. I wonder why they don't." "I don't know," he said. I said, "How could we find out? . . . Do you think you do something they don't like?" He didn't know. I suggested perhaps he try different behaviors and see what their response is.

3/29 After class today, Randy came up to me, and said he had been naughty today, and they sent him to jail. "Tomorrow," he said, "I will be good and see what they do."

3/30 Dean was the policeman today. I thought it would do him good to punish children who make a lot of noise because he complains about it. However, he permitted a lot of noise from Mike. Why? I asked the class, "What kind of teacher could Walter be?" One of the responses was, "Scared" (Susan). I tried to get her to elaborate but she wouldn't. I asked what kind of a teacher he should be. The children responded, "kind, nice." The group interaction is much more interesting to the class than the story that we read.

The ninth week was spent in making a mural about Walter the Mouse. The teacher expected the mural to show actual experiences that Walter had had, but it ended up that each child simply made Walter, his family, or one of the other characters in the book. They cut out the characters from colored construction paper, and several of the children put the mural together.

The last two weeks, the tenth and eleventh weeks, were spent reading several stories and doing something different with each one. The children told a sequel to one story; in another story, they described what they thought was happening as they looked at the pictures in an opaque projector.

> I read the story, No Fighting, No Biting. Comments were made throughout, mostly predicting what would happen. They were very attentive, and seemed to identify with the two children in the story. Kevin was very talkative and Mike was not being comical. Randy expressed creative ideas throughout.
>
> Dorothy, Randy, Kevin and David participated in telling the sequel.
>
> The children seemed to enjoy talking about the book, Where the Wild Things Are. We didn't finish it, and I asked if they would like to do this again tomorrow. The response was "no." "Why" I asked. Dean said, "We want to do it on Friday."

The last two sessions were designed to evaluate what the children learned and felt about the class.

The teacher wanted to find out if the children remembered any of the stories read, and if so, which ones. In the first evaluative session, she asked the children to act out one of the stories that they liked and the others would guess which one it was. The following stories were dramatized:

Walter, The Lazy Mouse
The Ugly Duckling
Where the Wild Things Are
Buzzy Bear Goes South
Norman the Doorman
Crow Boy
Dragon in the Clockbox
A Tree Is Nice
No Fighting, No Biting

In the last session, the children were asked to answer questions by marking the picture that best showed how they felt. This same instrument was used in the first session with the children.

Intern's Log - Comparison Treatment

This first week is written up in detail to illustrate the patterns and methods of everyday contact with the children. Relating the daily activities not only shows where the principles of literature are applied but also the pacing, structuring and atmosphere of the classroom. An example of technique was deemed necessary in setting forth this approach. The remaining weeks will be outlined as to content and emphases but much of the detail presented in this first week will be omitted.

The major objectives of the first week were establishing rapport with the children and creating interest in the topics to be pursued. The first of these objectives was accomplished by allowing the children much time to become acquainted with the teacher, as well as with one another in this new setting. Time was spent encouraging the children to verbalize and feel comfortable in the classroom. Pupil involvement with the project was sought by giving the children opportunities to contribute their ideas concerning activities for the coming sessions. Also, the first activity elictied much individual participation and group involvement.

First Day - emphasis on rapport and motivation.--I met the fifteen children today with whom I shall be working. After getting acquainted with them a little, we talked about what they would like to do during our times together. Quite a few expressed an interest in reading books on their own or reading orally to one another. The children seemed to like my suggestions of writing stories and inventing games about stories. We spent about ten minutes talking and then turned to Louise Fatio's story "The Happy Lion." I learned that the class had recently heard the story on tape, but they were in favor of hearing it again, especially since they hadn't seen any pictures with it the time before. As we read I asked a few questions about how the lion felt and why people reacted towards him as they did. The children grasped the trend of thought very well and had a few perceptive comments to offer. The students did tend to parrot one another though when asked for opinions and reactions. I only read half of the story and planned to finish it the following day.

Second Day - emphasis on rapport and principle of limitation.--I think that in order to provide a meaningful learning experience for children in any area, good rapport must be established. Especially in literature, children must feel free to express their ideas however naive they may seem to an adult. For this reason, I am spending time getting acquainted with the children and talking with them about families and experiences. Today we spent about fifteen minutes doing this and the time was profitably spent in my opinion.

The children felt comfortable with the discussion, as evidenced by their desire to contribute and their wish to continue the discussion. After finishing "The Happy Lion," our discussion about the book was interrupted a number of times by children wishing to relate their personal experiences. I thought this all right, although somewhat distracting. At least they want to talk, only one or two seem hesitant.

I asked the children what they would like to know about the Happy Lion that they didn't know from the story. The purpose of such a question was to introduce the idea of limitation; everything cannot be included in a story, nor is this desirable. A few suggestions were given, but time being short, I asked them to think about this question, and we would talk about it the next day. Also, I asked if they would like to learn more about the Happy Lion by reading another story about him. The response was enthusiastic, and I hope to get "The Happy Lion in Africa" for use in class in the near future.

Third Day - emphasis on limitation, meaning conveyance and relatedness of ideas.--Today we continued our discussion of what we would like to know about the Happy Lion that the story doesn't tell us. Many of their questions were quite imaginative:

How did this lion get happy?
Where did he come from?
Why is he a lion?
How old is he?
Why is he friendly?
How come he can talk?
How did he make friends with Francois?
Why was he tame?
Why didn't he eat Francois up?

Next we turned to the question of how we could find these things out. The suggestion was made that we read other books about the Happy Lion. I asked how Louise Fatio found out what she had written in this book. One child thought she had watched a tame lion at the zoo; another child thought perhaps she had read books about lions and how they acted. A third child said the author probably "thought him up in her mind and wrote it down. Real lions are wild." I wondered if we might do the same thing, and they all wanted to try. So it was decided that we write our own book about the Happy Lion.

First, though, I asked why this book didn't answer all of our questions. Responses of the children included:

The author didn't think of it.
She didn't want to make the book too long.
She was too busy making other books.
She may have saved some for other books.
Maybe another book she wrote would answer some of these questions.
We would get tired of reading it all.

Here a definite "limitation" idea is expressed. The author couldn't have told everything. This is what I wanted them to realize. Although the principle of art existing by or through limitation isn't encompassed here, a beginning to understanding it is made. The fact that the work must be limited in some ways is a good first step.

For our own book we would need pictures, or would we? (This introduces the principle of literature conveying meaning. For young children, pictures are a vital part of a literary work.) The answer was a unanimous yes. Specific reasons given by the children were:

Pictures are for people who can't read.
Pictures make a book more fun.
It would be fun to make the pictures.
Pictures help to tell the story.
Pictures help you to know the words.
All books have pictures. (There was disagreement here.)

Next I asked how we should start. The children first wanted to choose a name. Some suggestions for a title were:

The Happy Lion
The Things We Think About (because they are our questions)
Francois (because it's a nice name)
Francois and the Lion
New Things About the Happy Lion
Our Make-Up Day
Monkey Business
Lion Business

In discussing these titles, it was decided that if Francois did not get into the book, his name should not be in the title. "Monkey Business" was ruled out as a title, too. I couldn't get the children to tell why they did not like these titles though. I asked what a title was for and got responses such as, "you need it for the first page." One boy said a title helps you decide if you want to read the book. "How?" I asked. Finally, I suggested that a title tells what the book is about. The children agreed. Then we went back to the out-of-place titles and went over each. For example, the book would not be about monkeys, so why name it "Monkey Business?" (This discussion brought out the principle of relatedness of ideas in a literary work.)

Fourth Day - emphasis on the principle that literature conveys meaning.--After so much discussion about titles yesterday, there still arose a question as to whether or not we should write the story first and then compose a title for it. I pursued this line of thought, and the pros and cons of it were brought to the fore. The class was almost evenly divided, but a vote finally showed nine to six in favor of writing the story first. One boy was really the instigator of this switch, loudly claiming that we could not possibly know what the story was about until we wrote it. And the title tells what a story is about.

After looking over the questions which had been asked about the Happy Lion the other day, I asked which questions they would like to answer. The children had definite ideas about this. Some of their ideas were:

Answer all of the questions.
Don't answer all of the questions; this takes too much time.
We may not get through if we answer them all.
Ask each question, then answer it.

The children decided to answer all of their questions and make up answers to each question rather than look for books which might answer them.

Work on the actual story was begun. The childrens' questions were asked one by one, and answers were suggested and discussed. As an example of the type of reasoning going on, I have recorded one question and the responses given for it below:

Q. How did this lion get happy?

Because people liked him.
Born in a zoo. Trainer was friendly and tamed him.
Something good happened to him. When he thought of it he was happy.
Had a splinter in his foot. Somebody pulled it out, and made him happy.
Someone petted him when he was small.

Fifth Day - emphasis on principles of relatedness, limitation and conveyance of meaning.--The class continued discussing questions and answers and wrote up the final story. One girl had brought in a book about lions and we looked at it for ideas. They especially liked the illustrations in this book and many expressed a desire to illustrate our story. After much discussion and some disagreements, the following is the story the children wrote. (In writing this story, it was necessary for the children to relate their answers to what preceeded that point in the story. Limitation was also stressed since all answers given could not be used in the story. Meaning was conveyed; they were telling potential readers about the Happy Lion and adventures they had invented for him.)

Once upon a time there was a lion born in a jungle. The jungle was in Africa.
He was a happy lion. Something happened to him one time, and when he thinks of it he's happy.
He stepped on a thorn, and a little boy named Francois pulled it out for him.
Then they made friends, and the lion was happy. He was the happiest lion in the jungle.
The lion was about fifteen years old.

The paragraph divisions represent each page of the story. It was dittoed in this manner in order to leave ample room for illustration. In summary: The basic principles which were emphasized in writing this story were:

> Art exists in limitation. This limitation is introduced by the structure and the forms of art; events as such have no literary structure.

The first part of this principle especially was emphasized, and choices as to what to include in the story were made daily.

> Literature conveys meaning. The meanings conveyed are intrinsically united to the forms by which they are conveyed.

This story was made up of the things the children wanted to know, and eventually of what they wanted to say. Meaning was conveyed, and it was inextricably united to their story. What they had to tell could not have been said without this story. For them, this was true at least to a certain extent. Being an author himself brings essence to this principle for the child.

> In literature, as in life itself, events and ideas are connected, not isolated.

This principle was nicely illustrated by what the children actually wrote. Relatedness was the keynote and was kept throughout, beginning with the title up until perhaps the last sentence. This last sentence was discussed, however, in terms of the relatedness of things in the story, but the children decided not to delete it. For them, it was united adequately to the rest of the story.

These three principles were touched upon during this activity in the classroom. The children by no means "learned" these principles, but the aim here is to develop an appreciation and an ability to view literature in terms of its structures. This is a beginning.

Week II

This week was spent making illustrations to go with each of the five pages of the book the children had written. Crayon drawings were used, some of them quite imaginative. Again the principle of limitation was stressed. Each day some of the children told about the drawing they had done that day, what they had included in it and why. They explained how it helped to tell the story and why it fit on that particular page.

Illustrations in general were discussed and how this media could be used in literature. This was done in conjunction with the fourth principle listed previously, that is, literature, as an art uses certain forms and structures in transforming and limiting experience. In a naive way, children might see illustrations as one of these forms. (Adult literature would use different forms to accomplish the same purposes.) Here, however, the pictures were one way of transforming and limiting experiences which the children were trying to convey in their story.

Finally, the principle of relatedness was again stressed. How and why the picture should be related to the words on that particular page was brought out. The connection of one page with the others in terms of the drawings was also discussed. For example, if the child drew a jungle setting for the home of the Happy Lion, he kept the lion in this setting for the duration of the tale.

It may be seen that in the first two weeks, through one activity four of the six principles outlined were touched upon and brought out in some way.

Week III

The first few days of this week were spend completing the first project. The childrens' individual books were assembled, titles were chosen individually, and comparison with another lion book was made. This was Zhena Gay's "I'm Tired of Lions." We talked about how this book differed from "The Happy Lion" and from ours. The question, "Why are books different?" was discussed. This brought out the principle that literature was a transformation of experience. No two people have the same experiences. Consequently, no two people will think exactly alike on any particular topic. Each person will have different things to say and will choose to say them in a different way. No two books will ever be alike.

Writing their own book brought this concept to the children in a special way. The children could follow their own thought processes and perhaps see that the questions they had about the lion were unique, as were their answers. In fact, the whole experience of writing and illustrating their own book proved meaningful as a learning experience for the children. Enthusiasm ran high throughout the project and imaginative ideas were forthcoming from the majority of the children. As for literary principles, the six outlined were all touched upon, at least indirectly, with special emphasis as indicated. The process of creating seemed an excellent way of bringing these principles to the child in a way which he could understand and appreciate.

As a followup to this project, the children saw the film which tells the story of the creation of Holling C. Holling's book, Pagoo. To watch the making of a book in action (the actual limiting process) was an excellent sequel to their own creative experience.

The last two days of the week, we shifted gears so to speak and began to look at art forms as ways of expressing oneself. The children had expressed some of their experiences by writing a story, but there were other ways. What were some of them and why would one choose them?

The story "Norman the Doorman," by Don Freeman, was read to the children. This story is a delightful tale of a mouse who lived in an art gallery and decided to enter a sculpture contest. When asked what sculpture was, none of the children knew, so the question was left with them until the next day.

Upon renewing our discussion the following day, I was pleased to note that two children had found out about sculpture, and could help explain it to the class. One child had brought a small bust of President Kennedy as an example of sculpture. The article led to a discussion of art forms in general, stressing the first principle outlined. (The meaning conveyed in literature is intrinsically united to its forms, or the form by which it is expressed.) First this principle must be shown generally; meaning is united to the general art form, be it music, literature, painting, sculpture, or any other art form. Subsequently, a movement towards the more specific literary form can be made at a higher developmental level.

Week IV

This whole week was spent continuing the study of art forms and why they exist. Some of the questions pondered were:

> What is sculpture? How does it differ from other art forms?
> If you want to say something, what form would you choose?
> Can you combine forms or use more than one to say a particular thing?
> Is one form preferable for saying one kind of thing and not another, perhaps?
> Why did we choose a story form to tell about the Happy Lion?
> Could we have done a sculpture instead?
> Would it have said the same thing?

These questions were discussed with some success. The main emphasis was on the fact that there were different art forms and a particular form was chosen by the artist with deference to what he wants to say. In other words, there are many ways to express oneself. This idea was made relevant to the children by talking about how a child would show someone that he was angry. The childrens' ideas included words, facial expression, physical attack, and isolation from the other party. All of these ideas represented ways in which a child might express his anger towards another person.

The question of choosing an appropriate expression was raised. Some ways were decided to be better in certain situations than in others. The same is true with art. Expression of an idea may be better stated in one medium to serve a certain purpose, while another medium might be appropriate if the idea had a different purpose to serve. Again, art is conveying meaning; this meaning is related to the form in which it is being expressed. Here too is the idea of a transformation of experience. One has something to say. It is his own and he may choose how he would like to say it. Indirectly, the principle of art being about life is here being brought out. An author writes about his life, but the work of art itself does not constitute his life--rather, something he is saying about it.

The study of art forms and expression was concluded with a book called, "The Potter and the Little Greek Maid." The experience of the day is related to emphasize the problems involved in presenting abstract ideas to children of this age.

The hour began with a presentation by one of the children of a vase he had brought as an example of sculpture. We talked about what a vase might express which led into our story. The message of the story was beyond them, and the tale didn't hold their interest past the first page. I had suspected this type of reaction when I had looked the book over. Not only the vocabulary, but many of the ideas themselves were lost on a group of children of this age. (Death and the hardships of life, for example.) I thought I would try it though, since it was the story of a man who wanted to express his love for life and nature in a piece of artwork, specifically a vase. I wanted to utilize this to further discussion of the desire to say something and the multiplicity of ways in which this can be realized.

By the third page I was paraphrasing and by the fifth I decided to go on and tell the story rather than read it.

In the remaining time, the theme was pursued by speaking of music and how it is an expression of thoughts as well as were the other art forms the class had named. I asked how they would let me know if they were happy--what would they do or say? Words, pictures and songs were suggested, and the session was ended by singing a song everyone knew about being happy.

What was accomplished during this section of the classroom work was an application of the principles of literature to the whole realm of art itself. If a child can see how these ideas apply to art in general, application of the principles to literature as a particular art form is simplified. Again, the emphasis is upon viewing literature in terms of structure, not memorizing or studying structure itself apart from the art of which it is a part.

Week V

This week began a major emphasis on the forms and structures which literature itself, as an art form, uses in transforming and limiting experience. Art presents forms from which to choose in expressing oneself; literature presents different ways in which words can be utilized and structured. A form is chosen to fit the purposes of the author and what he wants to say. In other words, there are many ways to express one's thought and feelings using words. A conventional form is chosen in light of the author's content and intent.

The children were exposed to examples of various forms which literature might take - plays, poetry, stories (including tall tales, fairy tales, animal stories, and stories about people), and essays (non-fiction). These forms were discussed, taking into account the differences which the children would be able to appreciate. Besides dealing with the works presented in terms of this principle, other literary principles were brought in as appropriate. All of the literary forms listed above were not dealt with in this one week but throughout this particular week the emphasis was upon form and its relatedness to meaning. Later, when other forms were encountered, the discussions of this week were recalled and reemphasized.

Week VI

This week was spent on poetry exclusively, using it to show forth the general principles in literature. Characteristics of poetry as a literary form were also brought out. Various types of poetry were read, ranging from nonsense rhymes, and nursery rhymes, to serious and impressionistic poetry. A record of poetry being read to children was played and enjoyed. Attempts to write poetry brought in a discussion of rhyme, rhythm and subject matter of poems.

Thoughts about the emotional impact of poetry as opposed to prose was discussed. How certain poems make a person feel gave added sense to the idea of choosing a form of literature to fit what one has to say.

Similarities to other forms of literature were also pointed out. How a poem may tell a story, how limitation is necessary and how form and meaning are related were ideas presented for discussion. That the principles of literature in general also apply to poetry points out the fact that it is a form of literature. Poetry is not totally different from other literary forms but displays family characteristics. Each of the six basic principles outlined were brought in and continue to be brought in throughout the remaining weeks regardless of the specific topic of discussion. The general nature of these literary principles allows this flexibility of discussion and encompasses the task well.

Week VII

Sequence and relatedness within a literary work were the main emphases this week. Some of the activities used to bring this to the fore were reading stories out of sequence, making up endings to stories, seeing only parts of picture stories before viewing the whole story, creating picture stories and sequels to them. The emphasis on the sixth literary principle outlined is evident. (The structures used in a literary work are connected and related. In literature, as in life itself, ideas and events are connected, not isolated.) Here again, the other principles were dealt with as the occasion arose.

Throughout the work in the classroom, but in this unit especially, the preliminary work done in the classroom proved valuable. A lesson was done during this preliminary period concerning sequence and relatedness of parts to the whole (Lesson V, Constructing a Story). This lesson disclosed the importance of unfamiliarity on the children's part with the pictures chosen and a more careful choice was made. Consequently, more success was achieved; procedures and knowhow gained previously both contributing to this success.

Weeks VIII and IX

Two weeks were spent emphasizing art as a personal experience. It seemed that the best way to aid the children in appreciating many of the basic principles emphasized was to bring out the fact that literature is created by man; there is nothing supernatural or eternal about it. It is, as has been discussed, the transformation of experience. Literature is about life. It is an expression of meaning even while related to the form through which it is conveyed. Literature is created by limitation. It has continuity.

In a way, these weeks were a finale to all that had gone before. All six principles were discussed and exemplified, placed in new contexts and brought to a personal level.

Some of the activities involved were drawing to music, writing nonsense rhymes, acting out and role playing, interpreting pictures as well as creating by drawing picture stories, and comparison of personal experience and how it could be put into literary form.

The children listened to music--how does it make you feel? They drew to it--what does it make you think of? The children told their stories about the drawings they had made and what the music meant to them. Not only the music, but the experiences the children had with this music and their creations telling of these experiences were personalized.

The children also learned of experiences of others and how they expressed these incidents in literary form. The tale of Johnny Appleseed told much about how the settlers may have felt about their new land, and the people and animals within it.

Each person views things differently and interprets his world around him in his own way. To illustrate this personal nature of art, a series of photographs, each sketched three different ways, was used. These sketches pointed out in a graphic way that people view things about them differently. The class discussed details one artist saw that another didn't. What each artist chose to include and delete from the actual photograph provided an ideal springboard for discussion of the principles of limitation and experience transformation, as well as some of the other principles. The fact that different portrayals of the same object said different things again related form and meaning.

Opportunities for synthesis of the structure of literature were also utilized during this period. The connected nature of a work of art as well as its completeness and what holds it together, were ideas which were brought together.

Week X

The last week of classroom work was spent simply reading and talking about stories without emphasis on any particular structures or principles. Such principles as were applicable were brought in at appropriate times, with summary comments when possible.

Two days were spent with the adventures of "Walter the Lazy Mouse." Here again literature is the transformation of experience. Literature is about life--not the life of a mouse really, but life for human beings. This book really considers human nature rather than animal life.

"Where the Wild Things Are," by Maurice Sendak, certainly deserved a day of this closing week as this story exemplifies so clearly many of the basic principles being studied. The tale is so clearly a transformation of experience. The form is so definitely related to the meaning; even the size of the pictures shows this. The structures are so well-related. The story is so definitely about life.

A day with Else Minarik's "No Fighting, No Biting" again gave opportunity to bring in most of the principles. Here is a tale about alligators and one about people; their similarities can hardly be overlooked. The meanings conveyed, the experiences detailed, the parallel structures, the unmistakable themes about human life all present excellent opportunities for presenting literary structure.

On the concluding day the last lesson from the training phase was presented. Using this as a crude evaluative technique, the children's ideas for story endings to the tale of "Who Took the Farmer's Hat?" were recorded. The previous class had only two or three ending ideas amongst them. This group had a number of ideas which were quite original. The problem was what the farmer would do for a hat, since a bird had adopted his old one for a home. Some of the children's ideas were:

> The man takes the hat and builds a nest for the birds.
> The hat will blow out of the tree and the man will get it.
> The man didn't know it was his hat so he left it there and went on looking for his hat elsewhere.
> The man dumped out the eggs and took his hat home.
> The eggs fell out and the man took his hat home.
> The man left the hat for the poor birds and thought about getting a new hat.
> The hat grew bigger, tipped over the ladder and left the man hanging on a branch. Someone set the ladder up again and he took the eggs out of the hat and took it home.
> The man waited on the ladder until the eggs hatched, then he took his hat. He didn't want to hurt the eggs.
> The man couldn't get the hat because there were too many eggs in it. The bird knocked the man off of the ladder and he went home.

The children seemed to have enough understanding of structure to know what an ending was and that it was their prerogative as much as anyone's to make up an ending for the story. The previous class seemed to be attempting to guess the ending recorded in the book. The differences in spontaneity and creativity were so great between the two groups that at least part of the results were attributed to the approach to literature to which these children have been exposed. Of course, maturation and contact with literature itself both undoubtedly have a lot to say about the differences. However, this would likely not be adequate explanation for such a wide gap.

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